MacWEEK

05.22.95 | *The Newsweekly for Macintosh Managers* | VOLUME 9 NUMBER 21

EMA '95

Apple invites Windows users to PowerTalk

See Gateways, Page 18

Drupa features Macs in pre-press, print flow

By Carolyn Said

Düsseldorf, Germany — Drupa, the world's largest printing show, which just concluded a two-week exhibition here, showed that you can print on anything these days — pingpong balls and soda cans were two of the more offbeat substrates. Moreover, you can use Macintosh front ends to do it.

Although the 2.2 million square feet of exhibition space was dominated by the thunder of giant presses churning out reams of printed material, the number of Macs distributed among the 15 exhibit halls was startling.

Drupa showcased "the merging of the digital process with the printing process," said Paul Beyer, senior vice president at Tanagraphics Inc. in New York.

Users at the show said they are primed to go digital. "Seven years ago, my competitors bought proprietary pre-press systems for $500,000 to $700,000. Now they're worthless," said Larry Sommerfield, president of BFP Print Communications in Orange, Calif. "Finally, with the Mac, pre-press technology is at a point where you can rely on it to cut your workload in half."

Sommerfield, who currently contracts out pre-press work, said he plans to invest in several Macs and other equipment to bring pre-press in-house.

Drupa, an acronym for "Druck und Papier" — German for "print and paper" — is held every five years. This year, the show drew more than 450,000 attendees from

See Drupa, Page 80

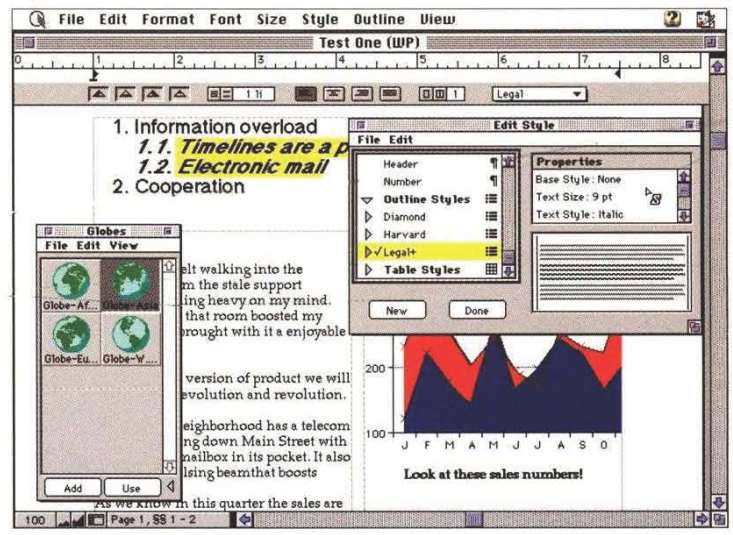
ClarisWorks to turn 4.0

Update will offer styles, image tools

By David Morgenstern

Claris Corp. is reportedly tying up the loose ends of a major revision to ClarisWorks that will have a beefier feature set while preserving the ease of use that has made it the best-selling integrated software package for the Macintosh.

According to sources, Claris has improved the word processing module in ClarisWorks 4.0 to encompass formatting capabilities found in stand-alone word processors. Top enhancements in this area include multiple sections, multiple headers and footers within each section, right and left facing pages, and new style sheet capabilities.



The forthcoming ClarisWorks 4.0, due to ship in July, will let users change text and graphics styles via ExpressStyle, a pop-up menu on the ruler. A palette will offer quick access to clip-art libraries.

ClarisWorks' ruler will sport ExpressStyle, a pop-up menu that lets users access predefined format settings for text, graphics, tables and outlines. Unlike previous versions, which required users to toggle between outline and text views, the upgrade will integrate the two views in the ExpressStyle menu. Sources said outline styles will include check boxes with color symbols denoting completion.

A customizable library system similar to that found in ClarisDraw and ClarisImpact will be integrated into the package. Libraries will be searchable by image name, and graphics can be dragged

See ClarisWorks, Page 78

Telecom kit integrates phones, Macs with ease

By Bob O'Donnell

Over the years, several companies have labored to combine the processing power of the computer with the communications capabilities of the telephone. Most attempts failed because of limited integration between the two. Apple's new effort, the $125 GeoPort Telecom Adapter kit, still has some nagging limitations, but it's the most enticing effort to create computerized telephony we've seen.

REVIEW

The kit includes the GeoPort Telecom Adapter pod, Cypress Research Inc.'s MegaPhone 1.0 telephony software for voice calling and messaging, Aladdin Systems Inc.'s SITcomm SE 1.01 telecommunications software for data links up to 14.4 Kbps, and Apple's Fax Terminal 2.01 for 14.4-Kbps fax handling with basic OCR. The package also includes gateways that unify these components into a single communications architecture via PowerTalk, although you

See GeoPort, Page 33

NEWS ANALYSIS

GeoPort to face new competitor as bus standard

By Nathalie Welch

Apple's desire to make its GeoPort a serial-port standard may go unrequited as suitors eye Intel Corp.'s Universal Serial Bus.

GeoPort currently provides Power Mac and Quadra AV models with a link to analog phone lines through GeoPort Telecom Adapters, which enable voice telephony and 14.4-Kbps fax and data communications (see review, left). But the GeoPort architecture aims much higher; it is built for real-time video as well as voice telephony and data over analog or digital lines at up to 2 Mbps.

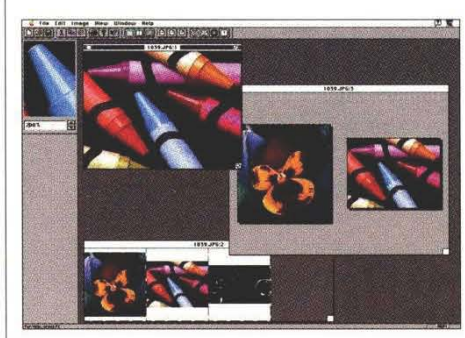
Apple set out in 1994 to make GeoPort a cross-platform standard for telecommunications. Its licensing efforts have met with little success, though, and no third-

See Analysis, Page 78

QMS eyes doc control

By Donna Raskin

QMS Inc. this week will unveil its Imaging Office System, a cross-platform suite of software applications and integration services for print-on-demand businesses. The system, based on Mac or Windows clients and Windows NT servers, is expected to enter the market at prices much lower than those of closed-architecture systems such as Xerox Corp.'s DocuTech and Eastman Kodak Co.'s LionHeart. Sources said each client will start at about $8,500.



The Image Arranger software module will let users manipulate images from several applications to create a customized document.

QMS will reportedly custom-configure each system to archive, arrange, print and distribute hard-copy documents or electronic files with the installed hardware of its clients, including existing printers.

One beta user with 50 Macs running the QMS system said it has let his

See QMS, Page 78

NEWSPAPER SECOND CLASS

See The Future Of Storage.

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The Tahoe 230 MB is the world's first portable optical drive, weighing only 1.8 lbs. It offers quick access time and fast data throughput, with each rewritable 3.5"disk storing 230 MB of data. With its optional travel case and battery pack, the Tahoe is the perfect solution for users on the go. *$795*

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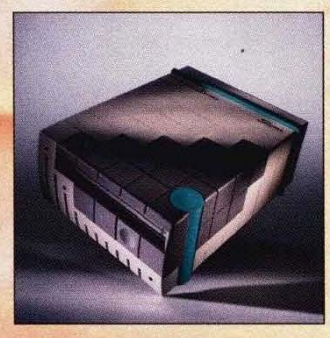

The Sierra 1.3 GB is the industry's fastest optical drive. It can be used as both a hard disk replacement and an on-line archiving system. Each 5.25" cartridge holds 1.3 Gigabytes of data, and boasts a 30-year shelf life. It is ideal for data-intensive applications such as graphics, CAD/CAM, multimedia or data archiving. *$2,495*

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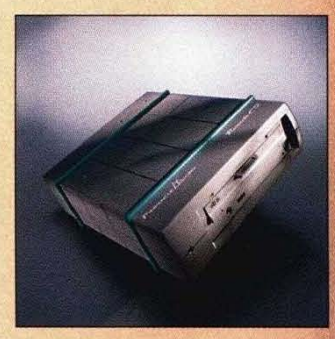

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MacWEEK

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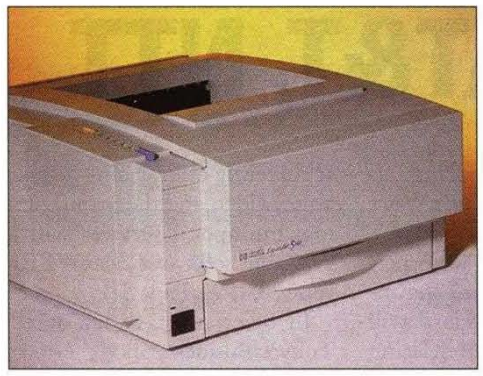
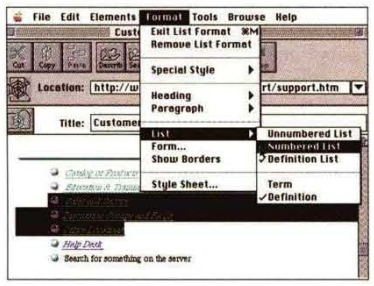
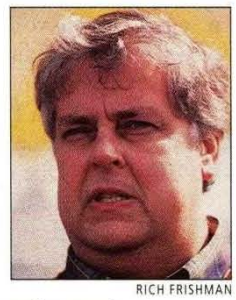


Hewlett-Packard's new LaserJet 5MP shows why HP owns the mono-chrome laser printer market. See Reviews, Page 33.



Web-top publishing tools are racing to market. The most WYSIWYG is NaviPress. See Gateways, Page 18.



RICH FRISHMAN

Mike Maples is leaving Microsoft. See Business, Page 26.

Apple Remote Access is popular for two essential reasons: It's easy to use and it cuts down on support costs. See Solutions, Page 39.

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ARA 2.0 gives mobile users the same rights as their office-bound counterparts, but don't expect a high-speed interface.

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MACWEEK INSIDER BOB O'DONNELL

Computerize my phone

If familiarity breeds contempt, the telephone is one of the most contemptible pieces of equipment known today. Few other office appliances have as intimate a connection to our work as the phone.

In fact, in an age when the personal computer is touted as *the* communications tool, I find it ironic that the telephone still plays such a staggeringly important role. That so little has been done to integrate the two in practical and useful ways verges on the criminal.

Some real-world examples highlight the problem: When I need to communicate with someone, I generally look up the phone number in my contact manager, then pick up the phone and make a call.

Similarly, much of my incoming communications pass through the PBX-based voice-mail system inexorably linked to my phone.

How do I tie these bits of information into my sophisticated, computerized personal information manager? Without a lot of extra effort on my part I can't, so I don't. Instead, like everyone else, I write most of them down on a pad of paper, and they remain separate and unlinked from my other data.

Like many other companies, Apple recognized this gaping hole between the computer and the telephone several years ago and developed the Mac Telephony Architecture (MTA) — a framework and set of public APIs designed to let Macintosh applications perform telephony tasks — to start filling the need. MTA was introduced in 1991 but, surprisingly, wasn't utilized in the original GeoPort Telecom Adapter kit for the Quadra AV machines, which was released back in 1993.

As a result, developers couldn't take advantage of the architecture, so the GeoPort pod was a disappointing tease — an enabling technology instead of a compelling solution. The fact that the original GeoPort software was unreliable only emphasized the problem.

The release of the new, MTA-compliant GeoPort Telecom Adapter kit, which includes the Apple-inspired MegaPhone application from Cypress Research Inc., changes all that. As I found when I evaluated this product for this week's review, we finally have a mainstream tool that starts to integrate the computer and telephone into a functional whole.

Vendors of Intel-standard PCs have also boarded the computer-as-telephone bandwagon. AST Research Inc., Packard Bell Inc., Compaq Computer Corp., AT&T Corp. and others offer machines that include digital answering machine/fax-data modem/speakerphone functionality as standard equipment.

That so little has been done to integrate the phone and the PC is criminal.

The difference between these offerings and Apple's is the integration of the technology into the normal computing experience. By taking advantage of its control over both hardware and software, Apple has the lead here, but there's still a long way to go.

Part of the problem is the continuing lack of application support. Most PIMs, in particular, are sadly lacking specific functionality for tracking phone calls made, scheduled and received, which is an important real-world need.

Cypress realized this and reluctantly attempted to incorporate some PIM-like functionality into MegaPhone, but its effort feels halfhearted (although the phone log feature can be tremendously useful). Thankfully, it also included the capability to link with existing PIMs. Without more support for phone-call data within PIMs, though, these solutions, too, are compromised. An ideal product would offer the telephone/answering machine functionality of MegaPhone within an existing PIM, perhaps as an OpenDoc part.

Ultimately, I'm hopeful that computers will soon automate repetitive phone-based tasks and improve our ability to communicate. Without stronger ties to the telephone, though, they're prolonging a dichotomy that needs to be resolved. □

Bob O'Donnell is MacWEEK executive editor of reviews. He encourages feedback by phone or e-mail at (415) 243-3543 or bob_o'donnell@macweek.ziff.com.

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Apple dials AT&T, NTT

QuickTime tech for video calls

By Nathalie Welch

As Apple's QuickTime Conferencing approaches its summer release, two major telephone carriers have announced plans to offer the desktop videoconferencing technology on their networks.

According to sources, Apple this week will announce that QuickTime Conferencing is pegged to run on WorldWorx Network Services from AT&T Corp. of New York. The network's compliance with the international H.320 standard will let QuickTime Conferencing users interact with other H.320-based video-teleconferencing devices, regardless of platform.

WorldWorx runs over ISDN (Integrated Services Digital Network) or switched 56-Kbps lines and offers speeds up to 128 Kbps. It currently offers point-to-point voice, video and data conferencing; multipoint services will be available soon (see MacWEEK, June 20, 1994, Page 82).

In other news, at last week's Tokyo Business Show, Nippon Telegraph and Telephone Corp. of Tokyo demonstrated the FM-A71, an addition to its FaceMate line of video products. The FM-A71 is a QuickTime Conferencing-based desktop system.

Due in late July, FM-A71 will include an ISDN adapter card with an H.320 chip set and a color video camera. Sources said the systems will be based on preconfigured Power Mac 7100s built specially for NTT by Apple.

Scheduled to ship in the United States this summer, an entry-level QuickTime Conferencing package should start at less than $200. □

Apple cuts products from roster

Apple reportedly cut several products from its price list last week, including most Power Mac upgrades and the aging monochrome OneScanner. At the same time, the company equipped the entry-level Power Mac 6100/66 with a 500-Mbyte drive, up from 350 Mbytes. Many accessories and upgrades for the LaserWriter Select 300 and 310, LaserWriter Pro and Pro 810, and LaserWriter II lines were cut. Also out, at long last: System 6.0.8.

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PRODUCTS

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- **Apple Serial NB Card**
- **4MB and 8MB Memory Expansion Kits**

PowerCADD 2 boosts printing and drawing

By Cate C. Corcoran

Engineered Software in June will release a new draft of PowerCADD. Version 2.0 will offer a smattering of new features that improve the architectural-design application's printing, drawing and editing capabilities.

PowerCADD is a $795 Power Mac-native CAD program designed for architectural drawing, mechanical engineering and graphic design.

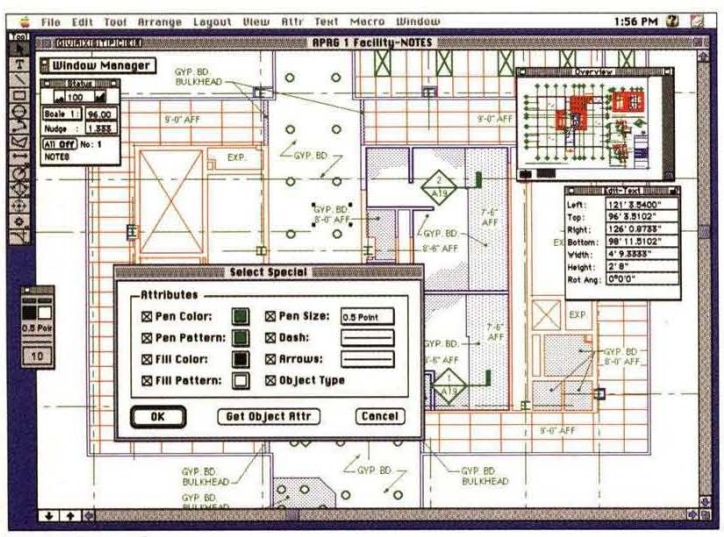
Along with what the company said is an overall performance increase, Version 2.0 will incorporate publish and subscribe for the first time, letting users update drawings, details and notes in many documents by modifying a single source.

A new Layer Attributes function will allow scale selection or pen color to be applied to individual layers of a drawing, Engineered said. In addition, the company said, a feature called Convert to Objects will transform PICT or EPS graphics or subscribed images into editable objects within PowerCADD.

Users will also be able to apply hatched fills to areas other than closed polygons, such as the space bounded by three sides of a rectangle. More-flexible printing features will let users fit a printed document onto different page sizes or print only what is shown in the user's current window.

Upgrades to PowerCADD 2.0 from PowerCADD 1.0 or PowerDraw 6.0 will be $99.

Engineered Software of Greensboro, N.C., can be reached at (910) 299-4843; fax (910) 852-2067. □



PowerCADD 2.0 will have a Select Special External tool that lets users select objects by attributes, such as color, pen size or fill pattern.

QuickTime VR turns price corner

By Cate C. Corcoran

With competition for the attentions of multimedia authors heating up, Apple last week announced price changes for QuickTime VR and the Apple Media Kit aimed at putting Apple technologies on more developers' desks.

After delays, Apple this month shipped QuickTime VR, development tools for creating navigable 3-D scenes, and, one week later, cut their prices.

Apple now offers a $1,995 package that includes the QuickTime VR Authoring Tools Suite, Apple's Macintosh Programmer's Workshop and one seat at a QuickTime VR seminar held by Apple's Developer University. The Tools Suite alone is now priced at $495.

Publishers of QuickTime VR-based CD-ROM titles that sell fewer than 25,000 units will now pay no fees; CD-ROM titles shipping more than 25,000 units will be charged $400 for each 5,000 units. Enhanced audio CDs that sell fewer than 50,000 units will not be charged, and developers who ship more than 50,000 copies will pay $750 per 25,000 units.

Apple previously said it would sell the QuickTime VR Authoring Tools Suite for $1,995 and charge 40 to 80 cents per unit for CD distribution.

"Apple is no longer the sole darling of multimedia developers, so it has to be competitive about how it prices its tools," said Neil McManus, executive editor at Digital Media, A Seybold Report in San Francisco. "Microsoft is suddenly paying a lot of attention to the kind of tools multimedia developers are looking for." Microsoft Corp. announced Surround Video, a competing technology, in January and has announced development tools slated to ship this year.

Apple also announced that runtime versions of the Apple Media Kit can now be distributed free. Previously, developers paid $500 per title to distribute the runtime component.

The $1,195 Apple Media Kit includes the Apple Media Tool and the Programming Environment. The Apple Media Tool is $599, and the Programming Environment is $995 separately.

The new prices are effective immediately. □

Vendors ready 168-pin DIMMs

By James Staten

Although Apple hasn't formally notified users that it will switch to a different RAM standard for the Power Macs due this summer, at least two vendors are ready to deliver the new memory modules.

Peripheral Outlet Inc. shipped last week and Microtech International Inc. will ship in June new 168-pin DIMMs (dual in-line memory modules) in configurations ranging from 8 to 64 Mbytes.

Unlike SIMMs, or single in-line memory modules, used in all current Macs, DIMMs provide a 64-bit data bus; they also use an interleaving scheme for better performance (see MacWEEK, Feb. 20, Page 4).

The modules are available from Peripheral Outlet in 8-, 16-, 32- and 64-Mbyte configurations priced from about $350 to $2,500. In June, 4-Mbyte modules will ship; 128-Mbyte modules are expected in the fall.

Microtech in June will ship 8-, 16- and 32-Mbyte modules.

Peripheral Outlet Inc. of Ada, Okla., is at (405) 332-6581 or (800) 256-6581; fax (405) 436-2245; peripheral@applelink.apple.com.

Microtech International Inc. of East Haven, Conn., is at (203) 468-6223 or (800) 626-4276; fax (203) 467-7166. □

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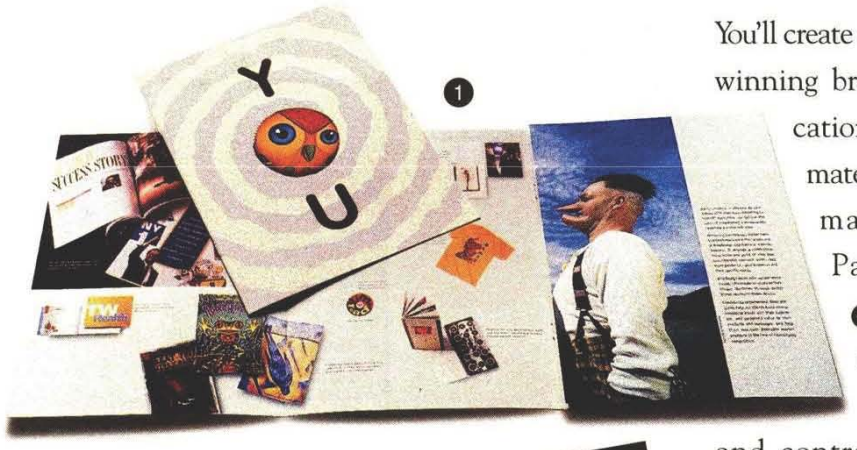

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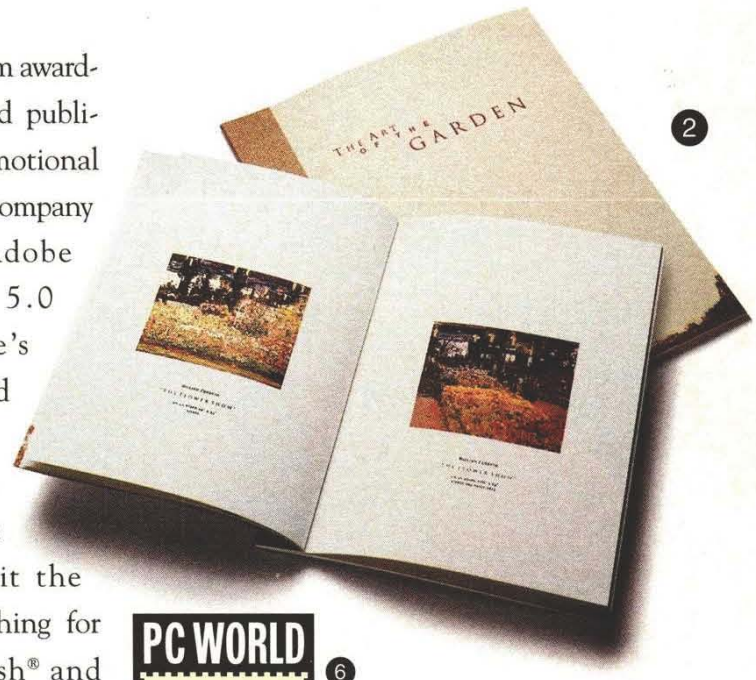

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WINDOWS MAGAZINE READERS' CHOICE 1994

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PC WORLD WORLD CLASS 1994

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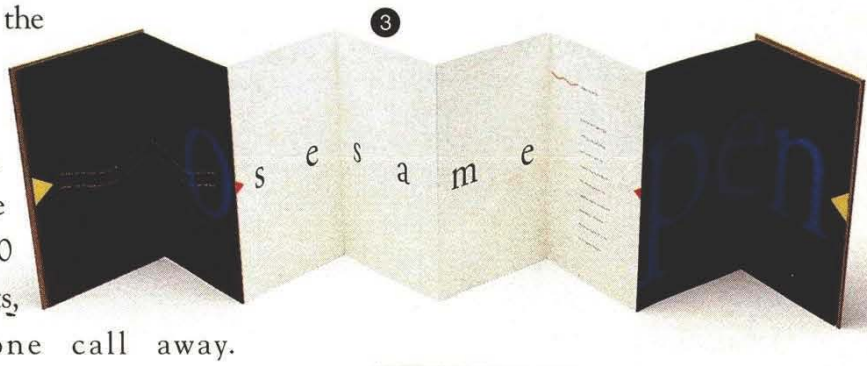

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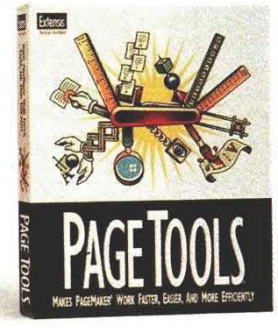

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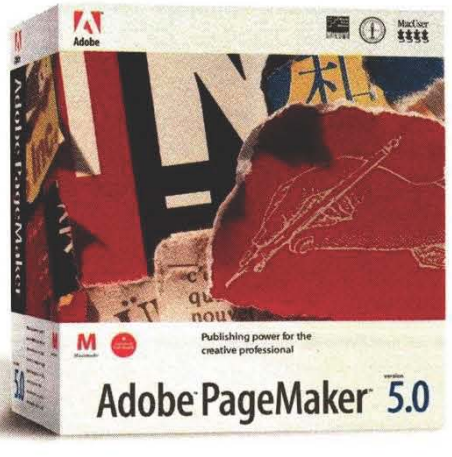

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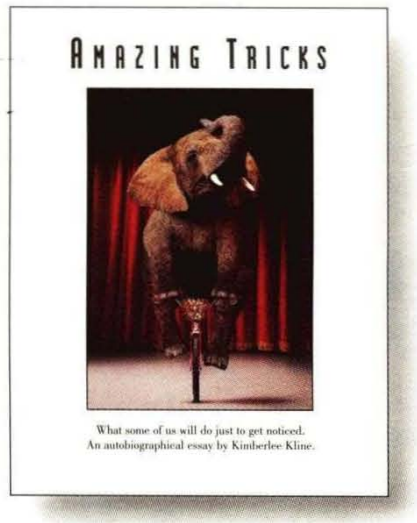
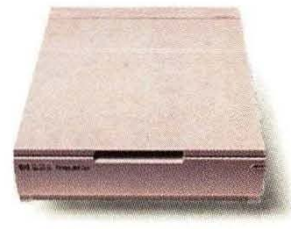
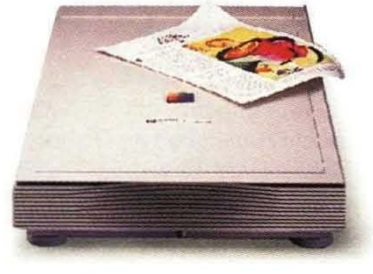


Introducing HP ScanJet Scanners

They're simple to set up. Even simpler to operate. And with software that makes scanning more automatic, using HP ScanJet scanners has never been easier. The new HP ScanJet 3c now offers internal 30-bit color at 2400-dpi enhanced resolution (600-dpi optical), and also includes free Corel PHOTO-PAINT for PCs.* The HP ScanJet 3p delivers 1200-dpi enhanced resolution (300-dpi optical). Both come with OCR software. For more information, call 1-800-SCANJET, Ext. 9232.†



Grayscale – $599



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TECH ANALYSIS

CHRP revs up for '96

PowerPC allies offer peek at spec

By David Morgenstern

While they are still hammering out the details of a common hardware platform, Apple and its PowerPC partners this month gave developers a look at the initial blueprint. The completed specification is slated for a summer release.

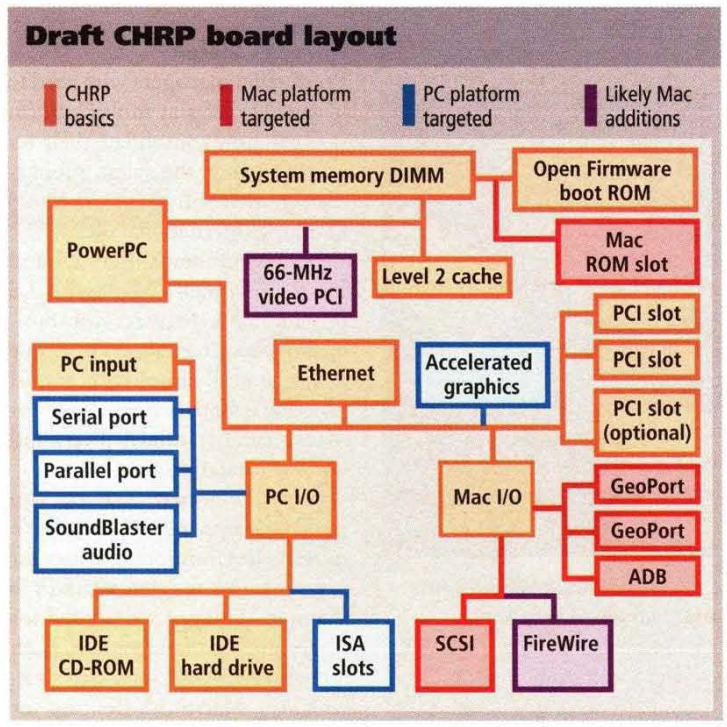
A white paper by Apple; IBM Corp. of Armonk, N.Y.; and Motorola Inc. of Schaumberg, Ill., detailed the Common Hardware Reference Platform (CHRP), which will support six operating systems, including Mac OS, Windows NT and OS/2. Apple plans to ship a CHRP system in late 1996 (see MacWEEK, May 15, Page 4).

According to Steve MacKenzie, PowerPC product manager at Apple, CHRP's hardware abstraction will let developers mix and match industry-standard hardware components as well as offer features aimed at a particular market or OS. While current Macs and Intel-standard PCs are closely tied to specific hardware, the CHRP designs will support different combinations of graphics, I/O and expansion hardware. "We will see a lot of variation," MacKenzie said.

The systems will rely on Open Firmware, or IEEE 1275, drivers stored on a boot ROM to configure the system hardware and attached PCI (Peripheral Component Interconnect) cards. Independent of the OS chosen by the user, the systems will configure themselves at start-up before launching the OS.

According to MacKenzie, vendors will offer models fine-tuned for performance with a primary OS. Developers will be able to extend capabilities via PCI cards and on-board integration; changes to the basic platform will require the vendor to provide a driver in the boot ROM.

In addition to the primary PowerPC trio, workstation vendors and familiar Mac companies, such as DayStar Digital Inc., Power Computing Corp. and Radius Inc., are reportedly preparing CHRP models. Power Computing said it will offer a CHRP line as well as DOS compatibility for its current Mac clones. FirePower Systems Inc. of Menlo Park, Calif., a vendor of high-performance PowerPC Reference Platform (PReP) designs, said it will offer a CHRP box in 1996. "If we do our job, you can just buy a shrink-wrap of [the forthcoming Copland OS] and run it," said Glen Miranker, FirePower vice president of hardware development.



The white paper describes a basic CHRP machine that will provide a PowerPC 604 processor, support 8 Mbytes to 1 Gbyte of RAM and offer up to 1 Mbyte of Level 2 cache memory.

The system will accommodate either two or three PCI slots and a split I/O architecture for Mac or PC peripherals.

▸ **Mac ROM.** Besides the boot ROM, CHRP models will use a slot for the Mac OS. MacKenzie said the machines may not require the ROM, and developers could combine the Mac and boot ROMs.

▸ **Graphics.** According to sources, the CHRP graphics slot will be aimed primarily at PC graphics acceleration. Mac-centric designs will likely sport the 66-MHz video PCI slot that will be found on Apple's forthcoming Nitro model (see MacWEEK, Feb. 13, Page 1).

▸ **I/O.** Depending on market focus, vendors will probably use bus-master IDE (Integrated Drive Electronics) for an on-board hard drive and CD-ROM. They will also accommodate less-expensive PC keyboards and mice.

Besides SCSI, Mac-centric designs may include GeoPort, ADB and 1394 (FireWire) ports, according to sources. □

PDSC blazes trail for low-cost CD-R

By David Morgenstern

Knocking the bottom out of current CD-Recordable software prices, Publishers Data Service Corp. this week is slated to ship its CD Constructor, a new entry-level CD authoring application.

The $199 software is aimed at backup applications and supports multisession Mac Hierarchical File System, CD-Plus and CD-Digital Audio formats (see MacWEEK, Feb. 13, Page 8). CD Constructor lets users create disc archives by dragging and dropping files into a "soft volume" on a hard drive.

The program supports single-, double- and quadruple-speed recorders from Eastman Kodak Co., Philips Consumer Electronics Co., Sony Corp. and Yamaha Corp. of America. PDSC said support for recorders from Pinnacle Micro Inc., Plasmon Data Systems Inc. and Ricoh Corp. is due by the end of July.

"Basic packages lose a lot of features," said multimedia developer Joel Remis, president of Ironstone Technologies of Winnipeg, Manitoba. Although the price of CD Constructor is attractive, Remis said, his company requires software that can record discs in hybrid formats for cross-platform electronic publishing. PDSC's hybrid ISO 9660-capable software costs $695.

PDSC offers CD Constructor in $1,675 and $1,795 bundles using internal and external Sony double-speed recorders, respectively. Systems that feature quadruple-speed drives and support 9660 and multimedia formats cost $6,295 each.

Publishers Data Service Corp., a division of Sony Electronic Publishing Co. of Monterey, Calif., can be reached at (408) 372-2812 or (800) 654-8802; fax (408) 372-7145. □

Hard drives to pick up speed

By David Morgenstern

San Jose, Calif. — Storage vendors promised bigger and better drives and offered a glimpse of forthcoming features at the RAID '95 International Storage Conference here last month.

Analysts at the event said average drive capacities have climbed 60 percent every 18 months since 1990; before that, the rate was about 27 percent. Manufacturers predicted this rising trend will continue through the end of the century, thanks to new read-channel algorithms, thinner platters and improved recording-head technologies.

"People pay the same amount for a drive, no matter the capacity," said James McGrath, systems engineer with Quantum Corp. of Milpitas, Calif. He said today's full-height 3.5-inch drives, priced at about 25 cents per megabyte, will cost only a penny per megabyte in five years.

Later this year, he said, Quantum will unveil a new PRML (partial response maximum likelihood) read-channel drive with a spindle speed of 10,000 rpm. The drive will offer an average access time of 5 milliseconds. The current high-performance ceiling for drives is 7,200 rpm with an average access time of 7 milliseconds.

Vendors also discussed the reliability of failure-prediction algorithms in desktop drives. The technologies are used in drives from a number of vendors and, according to McGrath, can predict only 40 percent of failures. Mechanical problems are easier to detect than electrical-component failure, he said. Vendors also voiced concern that users will overreact to false reports. □

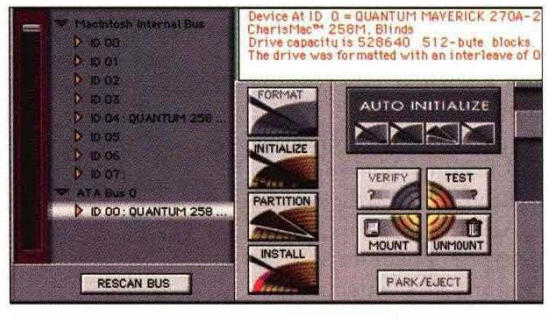
CharisMac drivers take IDE reins

By David Morgenstern

CharisMac Engineering Inc. next week will add IDE support to its Anubis line of storage utilities, removing roadblocks to higher hard drive performance.

Version 2.54 of the $129.95 Anubis Professional lets users enable any built-in RAM caches as well as adjust the read-write command settings for drives with IDE, or Integrated Drive Electronics, interfaces. The PowerBook 150 and the Mac 630 line use IDE instead of SCSI for internal drives.

CharisMac said the update boosts performance about 40 percent to 50 percent. Users can create multiple partitions on IDE and SCSI drives and assign individual password, start-up and read-only settings. The upgrade costs $29.95 for users of Anubis Professional and CharisMac's $199.95 Anubis Professional Storage Suite.



Getting a grip on IDE and SCSI drives, CharisMac's Anubis Professional Version 2.54 lets users boost performance by adjusting drive settings.

CharisMac Engineering Inc. of Newcastle, Calif., can be reached at (916) 885-4420 or (800) 487-4420; fax (916) 885-1410. □

Map tools on PPC course

MapInfo, ESRI ship native apps

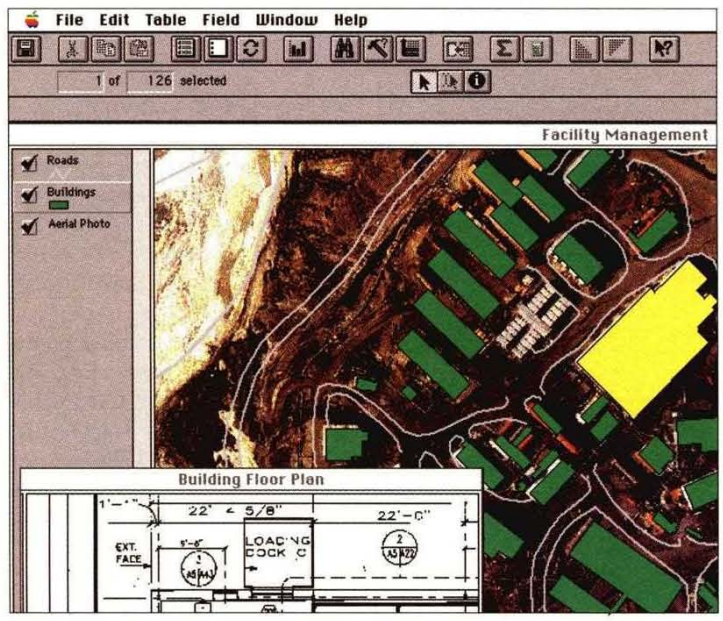
By John Poultney

Power Mac users can find their way through the world a little faster thanks to Power Mac-native versions of desktop-mapping software from MapInfo Corp. and Environmental Systems Research Institute Inc.

MapInfo for Macintosh 3.04 is priced at $1,295 and contains versions of the product for Power Macs and 680x0-based machines. The company said the Power Mac version runs four times faster than its predecessor.

MapInfo includes integration tools to merge data and maps from a variety of vertical applications. Users can combine scanned images with maps included in the package and remap territories to reflect changes in underlying data (see MacWEEK, April 25, 1994, Page 5).

Users can connect the software to Oracle and Sybase databases via MapInfo's $595 SQL DataLink feature.



Data from all over the map: This image demonstrates how ESRI's ArcView 2.1 can overlay a variety of data types onto raster images.

Jack Mohr, research associate with Dartmouth Medical School of Hanover, N.H., uses the Power Mac version to create a national atlas of health-care costs. "The new version of MapInfo makes database queries much faster," he said. "Performance compares favorably to a 90-MHz Pentium, and the graphics are superior."

Users of Versions 2.0 or 3.0 of MapInfo for Macintosh can upgrade for $99 through June 30 and $299 thereafter.

ESRI next month will release Power Mac and 680x0 versions of ArcView 2.1. ArcView, which combines features of desktop-mapping systems and GIS (Geographic Information Systems), creates integrated analysis systems by linking data from maps, spreadsheets and graphics programs.

ESRI's Avenue object-oriented scripting language, a $1,000 option with previous releases, is a standard feature of ArcView 2.1. It lets users create specialized dialog boxes and data transfer options.

ArcView works with most database file formats as well as ASCII and ESRI's proprietary ARC/INFO format.

Beta tester Walt Bremer, head of the landscape architecture department at California Polytechnic State University at San Luis Obispo, uses ArcView in an environment that combines Macintosh, DOS and Unix platforms. Bremer said he is pleased with Version 2.1's Pentium-like speed as well as its ability to handle Unix data. "Unix-formatted CDs with ARC/INFO files work fine in the Mac," he said.

ArcView 2.1 for Power Macs or 680x0-based machines will cost $995; no upgrade option will be made available.

MapInfo Corp. of Troy, N.Y., can be reached at (518) 285-6000; fax (518) 285-6060.

Environmental Systems Research Institute Inc. of Redlands, Calif., can be reached at (909) 793-2853; fax (909) 793-5953. □

Altec Lansing surrounds the desktop with sound

By James Staten

While few multimedia titles provide surround sound, Altec Lansing Consumer Products' latest speaker system can output these signals. The hardware shipped this month along with four other new speaker products.

Priced at $450, the ACS500 comprises two 22.5-watt satellite tower speakers that provide center, stereo-imaging and stereo-surround-sound channels as well as a 35-watt subwoofer that extends low-frequency bass output. It has a frequency-response range of 20 Hz to 20 kHz and built-in Dolby Pro-Logic circuitry.

The subwoofer in this system is sold separately as the ACS250, priced at $150. Its two 6-inch, long-throw woofers have a frequency response range of 35 Hz to 250 Hz.

The ACS51, priced at $100, features two 3-inch, full-range speakers that output 6 watts each. It has a frequency-response range of 80 Hz to 18 kHz and sports two line-in jacks, circuitry for mixing two audio signals, a headphone jack, and separate volume and treble controls.

The ACS52, priced at $128.50, features two units with separate 4-inch mid-to-bass speakers as well as 0.5-inch tweeters that output 19 watts. It has a frequency-response range of 60 Hz to 20 kHz and includes dual line-in jacks; circuitry for mixing audio signals; a headphone jack; and separate volume, treble and bass controls.

The ACS53, priced at $180, features two 12-watt satellite speakers with 3-inch mid-to-bass cones and a separate powered 15-watt subwoofer. It has a frequency-response range of 35 Hz to 18 kHz and features the same jacks and controls found on the ACS52.

All the systems feature a patented phantom-sub output that provides better sound separation across the mid- and low frequencies, the company said.

Altec Lansing Consumer Products of Milford, Pa., can be reached at (717) 296-2818 or (800) 648-6663; fax (717) 296-1222; 75361.351@compuserve.com. □

Latest Micro Planners take on more projects

By James Staten

Production managers who need to oversee projects at multiplatform sites can now consolidate their reporting using the latest project-management software from Micro Planning International Inc.

Micro Planner X-Pert 2.3 and Micro Planner Manager 1.3 provide new features for optimizing resources across multiple projects and simplified export functions. Both are available for Macs, Intel-standard PCs and Unix workstations.

Micro Planner X-Pert, designed for upper-level managers, consolidates multiple activities for easy macromanagement. Micro Planner Manager is designed for single-project management. Both use a project-desk interface similar to the Macintosh desktop for creating a workspace for multiple projects, producing reports and designing charts (see MacWEEK, Aug. 22, 1994, Page 4).

Micro Planner X-Pert 2.3 supports up to 15,000 activities, 100 subprojects, 500 calendars and 500 resources. Users can create an unlimited number of links among projects, and links are now cross-platform, the company said. The program also performs multi-project cost analysis by calculating percent-complete information and earned value. Micro Planner X-Pert conforms to U.S. government reporting requirements through 12-month cost schedules with work-breakdown cost structures.

David King, scheduler for Admiral Marine Works Inc. of Port Townsend, Wash., uses Micro Planner X-Pert to manage the construction of the yachts his company builds. "The key new feature for us is the ability to use a resource-based histogram," he said. "There are now a lot more options for [customizing the diagrams]."

Micro Planner Manager 1.3 supports 500 calendars and 500 resources, each up from 250.

Both programs now feature multi-table export abilities for easier import into other enterprise applications.

Micro Planner X-Pert 2.3 and Micro Planner Manager 1.3 remain priced at $1,995 and $695 respectively; upgrades are $495 and $149, respectively. Users who have MPI's $395 annual support program can upgrade free.

Micro Planning International Inc. of Denver is at (303) 757-2216 or (800) 852-7526; fax (303) 757-2047; sales@microplanning.com. □

Sales-automation systems ship

By James Staten

Diamante Software Inc. and Endpoint! Marketing Information Systems have extended the options for sales and support professionals seeking to automate their work.

Diamante this month shipped PowerRep, an order-tracking system based on ACI US Inc.'s 4th Dimension that is designed for manufacturer sales agents. It runs native on Power Macs or 680x0-based models and allows a representative to keep track of orders and any related invoices. Commissions are calculated automatically and can be reconciled when commission checks are received.

PowerRep is priced at $1,495 for a single user, $2,995 for a three-user version and $350 for each additional user. A limited demonstration version costs $99.

Endpoint! shipped Call Track!, a multi-user database system for customer support departments that, when used with the company's Leads! or any other 4D-based sales-automation system, integrates sales and customer support records.

Support representatives can use the program to enter call records; schedule follow-ups; trace service histories; and report a range of call parameters, such as category, length and status. When integrated with a sales-automation system, users can post follow-ups to sales representatives.

Through Call Track! users build a problem history by linking related calls, store and retrieve unique call characteristics using six definable fields, time-stamp calls, and generate custom reports. Call Track! is priced at $1,500 per user.

Diamante Software Inc. of Plano, Texas, can be reached at (214) 964-5444 ; fax (214) 612-2722; diamante2@aol.com.

Endpoint! Marketing Information Systems of Cupertino, Calif., can be reached at (408) 725-4200 or (800) 725-4255; (408) 725-4210; endpoint@applelink.apple.com. □

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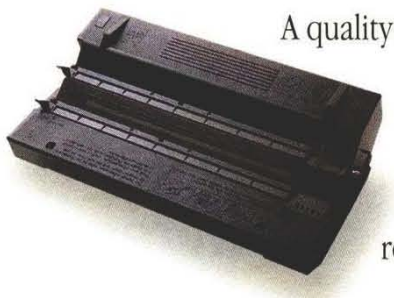

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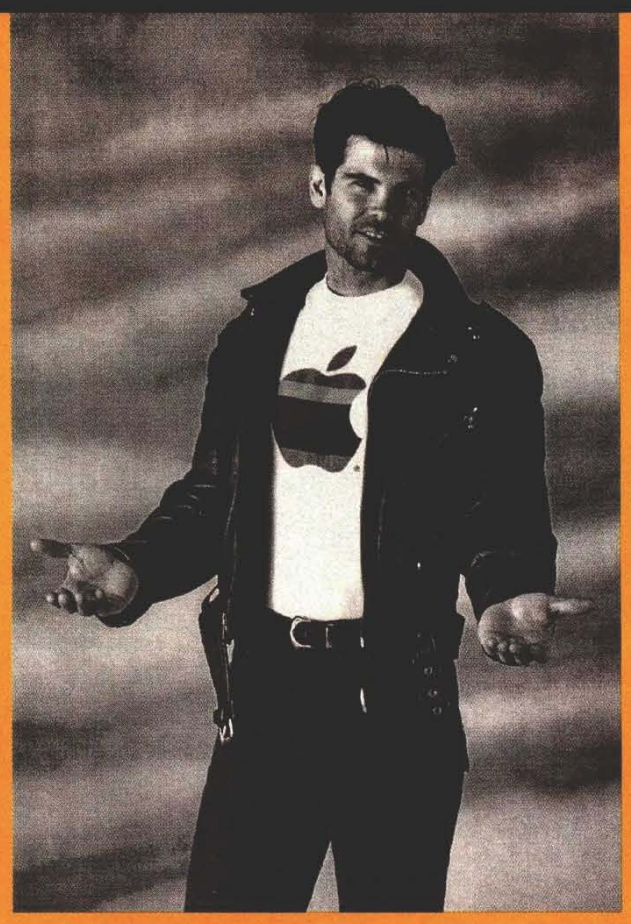
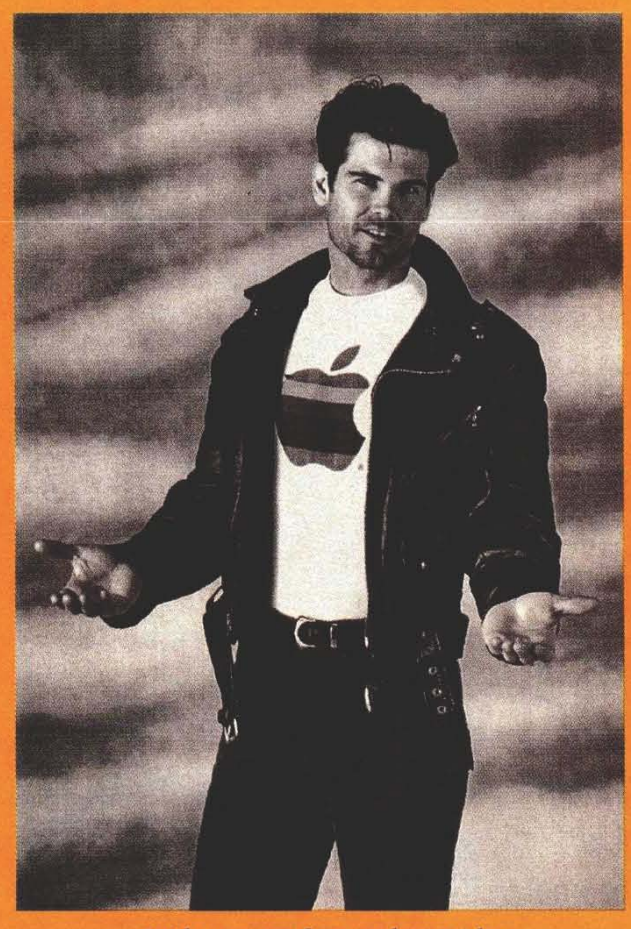


New Apple cartridge



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FlexWare faster; Block offers finance CD

By Jon Swartz

A pair of Mac developers this month unveiled financial packages aimed at improving the fortunes of users.

State of the Art Inc. said it will ship a Power Mac version of FlexWare 8.0, its accounting software program, in June. The $695 program now runs up to 50 percent faster on 680x0-based Macs and 300 percent faster on Power Macs, the company said.

In addition, FlexWare's interface has been overhauled; it now features larger, 3-D screens as well as a new QuickLook pop-up screen. State of the Art has also enhanced several FlexWare modules; the General Ledger Module, for instance, now lets users record bank transactions.

Block Financial Software this month released Managing Your Money Plus for Macintosh, a new CD-ROM containing financial advice, how-to articles and on-line access to more than a dozen financial forums via CompuServe.

The $50 CD includes SmartFind, which allows users to search simultaneously across checking, savings and credit card accounts to find a specific transaction, and QuoteLink, which lets users download investment data from CompuServe.

State of the Art Inc. of Irvine, Calif., can be reached at (916) 791-7730 or (800) 447-5700; fax (916) 791-5525.

Block Financial Software of Fairfield, Conn., can be reached at (203) 255-1441 or (800) 537-9993; fax (203) 256-5159. □

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* Macworld Editors' Choice, November 1994. MacUser Editors' Choice, March 1994. The Energy Star™ emblem does not represent EPA endorsement of any product or service. All brands and product names are trademarks or registered trademarks of their respective companies.

APC powers up UPS line to ease power failures

New additions to American Power Conversion Corp.'s Back-UPS Pro line promise to cushion Macs' fall after power failures.

APC said the $589 BP1000 and $759 BP1400 uninterruptible power supplies, or UPSes, support 670 and 950 watts, respectively. For up to 14 and 29 minutes, respectively, the BP1000 and BP1400 can run a Power Mac 8100 with a monitor and several external drives. The units also provide automatic voltage regulation and line-noise filtering.

The models provide surge protection for modem and 10BASE T Ethernet lines. They feature user-replaceable hot-swap batteries and replacement alerts.

The units support APC's $99 PowerChute software and serial-interface kit that lets the UPS and host Mac communicate. Users can set the control panel to save open documents automatically and shut the system down properly during a power failure.

American Power Conversion Corp. of West Kingston, R.I., can be reached at (401) 789-5735 or (800) 800-4272; fax (401) 789-3710. □

Table-building module enriches SPSS stats app

SPSS Inc. recently released SPSS Tables, a table-building module designed to spruce up dry data within SPSS 6.1, the company's cross-platform statistics package.

SPSS said the $395 software lets users create tables with side-by-side frequencies and multiple-response statistics in rows and columns. Variables can be nested in a table, and two or more tables can be stacked together into one.

The table module can show data in three dimensions and calculate up to 20 different statistics for each cell automatically, the company said.

SPSS Inc. of Chicago can be reached at (312) 329-3500 or (800) 543-2185; fax (312) 329-3668. □

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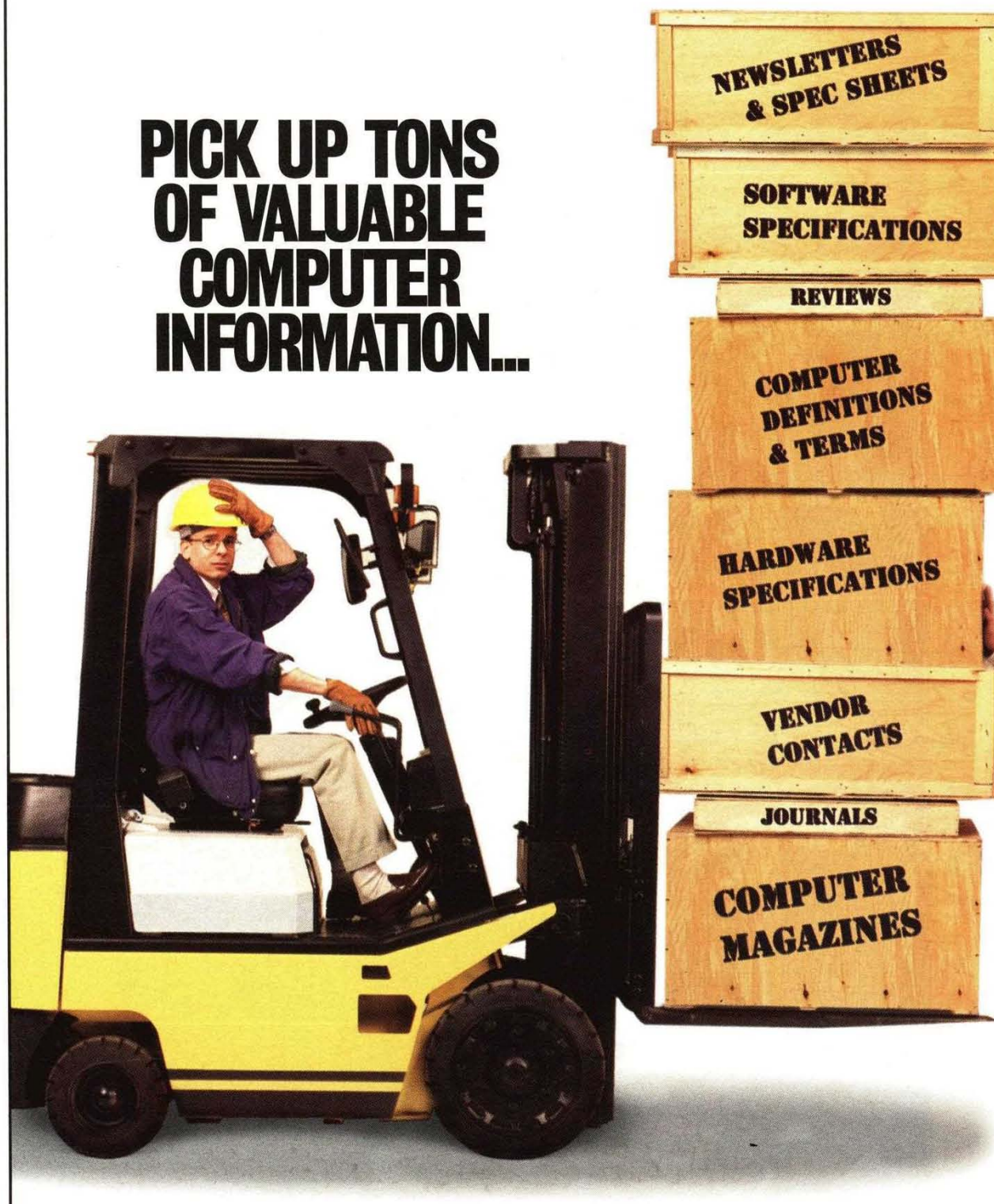

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Vince DiPaola takes a few million pages to explain why he likes our servers so much.

These days, Gamma One turns around more separation jobs than just about any 130-person pre-press shop in the country. They do it with talented people, high standards and one very impressive kind of hardware: the new Workgroup Servers from Apple.

Recently, Vince DiPaola, V.P. Technology at Gamma One, bought nine Workgroup Servers. He then added two critical pieces of software: Adobe™ Color Central, which lets users work with files in a low-resolution format—saving significant processing time when designing layouts, printing and sending files. And Canto Cumulus PowerPro software, which catalogues thousands of images, for quick, easy retrieval.

And because they're Apple® servers, says Vince, "We don't need a certified engineer on hand to maintain them. Our people do all the upgrades themselves around here."

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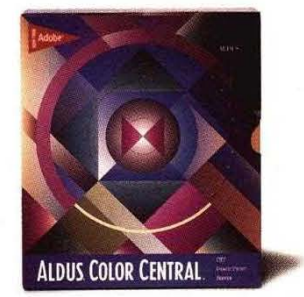
–Vince DiPaola

Vince DiPaola,
V.P. Technology, Gamma One,
North Haven, Connecticut.

Gamma One is a color-separation house whose clients include Hanover Direct, Lord and Taylor, Clifford and Wills, Bloomingdale's and many, many, many more.

A new RISC-based Workgroup Server from Apple with AppleShare® 4.1 runs about twice as fast as a Macintosh Quadra® with AppleShare 4.0.2. With this kind of speed, think of how much time you'll save exchanging files over your network.



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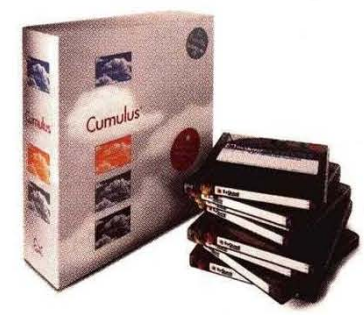

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LaserMaster goes wide

DisplayMaker to use solid wax

By Donna Raskin

At the Drupa show in Düsseldorf, Germany this month, LaserMaster Corp. unveiled the DisplayMaker Express Digital Color Printer, which will output images up to 53 inches wide using wax-based solid ink at speeds up to 10 times faster than large inkjet printers, the company said.

DisplayMaker Express, due in June for $79,995, will print images up to 53 inches wide by 200 feet long at 307-dpi resolution. It will print a 34-by-44-inch page in about 4.5 minutes or produce 6 inches per minute at the full 53-inch width, the company said.

With the hot-melt technology, users insert solid-ink CMYK "pucks" into permanent print heads, which eliminates the need for disposable ink cartridges. Up to three of the 150-milliliter pucks may be inserted for each color, ensuring that the printer will not run out of ink during a job.

LaserMaster's DisplayMaker Express Digital Color Printer uses solid-ink wax-based CMYK "pucks" to produce images up to 53 inches wide. The package includes an external RIP server and monitor.

The device will come with an external RIP server based on a 100-MHz LaserMaster processor that runs the company's ColorMark Pro RIP software. The server will have a 1-Gbyte hard drive and 64 Mbytes of RAM. A SCSI port will enable connection to an external hard drive. The package will also include a monitor, keyboard and start-up set of consumables.

ColorMark Pro, a PostScript Level 2 RIP, features a color-management system that converts images between RGB and CMYK, an option for print spooling, and support for the TruMatch Swatching System and LaserMaster's SmoothTone stochastic screening.

DisplayMaker Express will come with Ethernet connections and will support EtherTalk, Novell Netware and TCP/IP.

LaserMaster Corp. of Eden Prairie, Minn., can be reached at (612) 944-9330 or (800) 805-7549; fax (612) 944-0522. □

Native PROmotion saves cels as PICTs

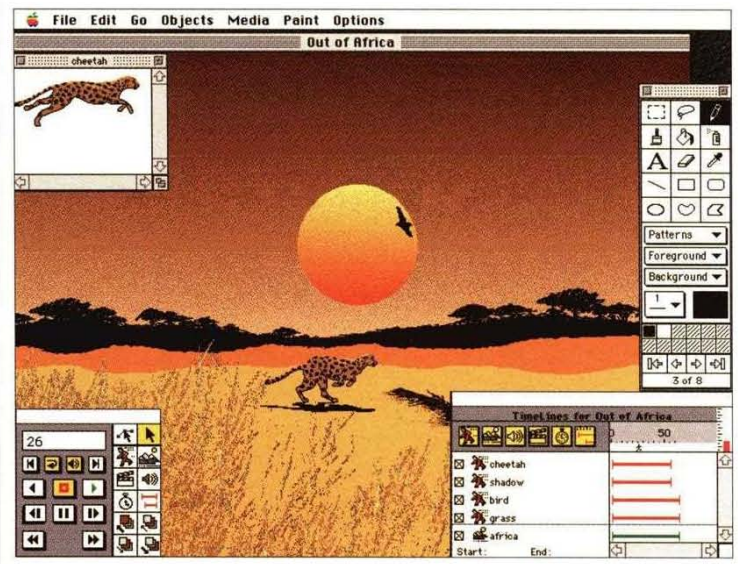
By Cate C. Corcoran

Motion Works Corp. has moved ahead its PROmotion 2-D animation application, giving the program Power Mac-native speed and a slew of new features and improvements.

Now $149, down from $395, PROmotion 1.5 has new import and export options. Users can now import AIFF (Audio Interchange File Format) sound files for use in PROmotion animations. A new export function lets users save single frames of animations as PICT files to be edited in graphics applications.

"Before, when you were working on an individual frame, you

See PROmotion, Page 17



The native Version 1.5 of Motion Works' PROmotion lets users change objects' layers by dragging and dropping within the time line window.

PhotoFix image editing reaches low-end Macs

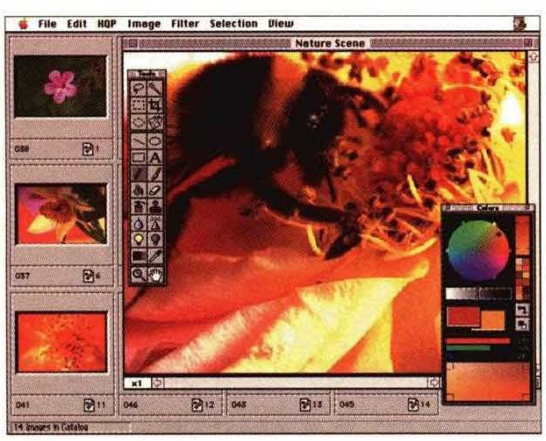
By Cate C. Corcoran

Proving that image editing isn't just for users with big machines and big budgets, Microspot USA Inc. recently shipped its $249 PhotoFix photo-editing application for 680x0 and PowerPC Macs.

PhotoFix lets users whose Macs have as little as 1.5 Mbytes of free RAM edit PICT and TIFF files in RGB and gray-scale modes. The application includes controls for RGB color-balance correction, brightness and contrast. Users can control these attributes manually or select automatic adjustments.

Editing tools include Clone, Sharpen, Blur, Rotate, Dodge, Burn, Airbrush, Paintbrush,

See PhotoFix, Page 17



Microspot's $249 PhotoFix image-editing application integrates an image-browsing program for easy viewing and cataloging of available PICT and TIFF files.

FOCUS ON

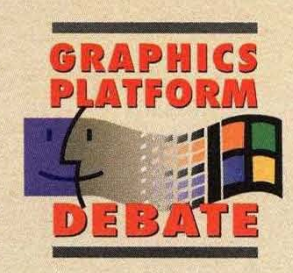
GRAPHICS APPS

Windows gains in Photoshop

By Bruce Fraser

Until recently, Adobe Photoshop meant Photoshop on the Macintosh. Early adopters of Photoshop on Windows were plagued with numerous problems — many Intel-standard PCs had a BIOS that was unable to address more than 64 Mbytes of RAM, and there were numerous conflicts between different video drivers and SCSI implementations.

With today's Pentium machines and Windows NT, these problems have largely been solved. Windows machines account for about 30 percent of Photoshop installations, according to Adobe, while most sources put sales of Photoshop for Unix systems at less than 1 percent.



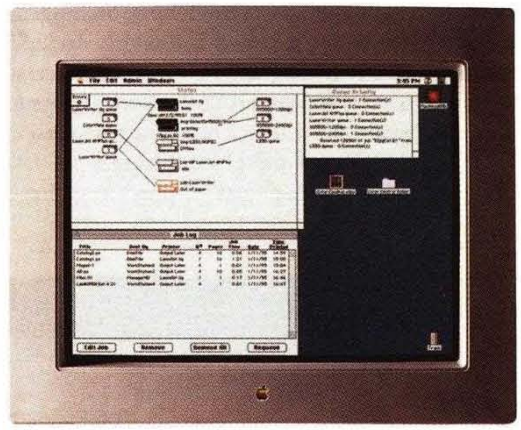
Dual-Pentium systems are beginning to appear, and, while they present a substantial challenge to the Mac's speed, they still lag far behind Power Macs with application-specific digital signal processor (DSP) accelerators such as Radius Inc.'s PhotoEngine and Thunder IV series or the forthcoming PowerShop from Adaptive Solutions Inc.

The next generation of Power Macs will of course have faster CPUs. The addition of the PCI (Peripheral Component Interconnect) bus, a standard on many high-performance PCs, and faster memory access

See Focus On, Page 16

3 ways to increase your employees' billable hours.

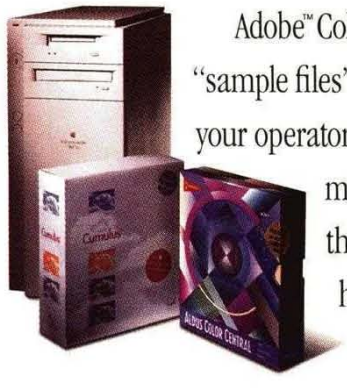
Canto Cumulus. Instead of spending valuable time hunting through hard disks and SyQuest cartridges, Canto Cumulus catalogues thousands of images for quick, easy retrieval.



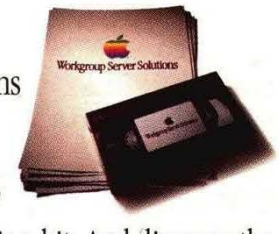
Adobe Color Central. This program creates low-res "samples" from high-res images, so your people can manipulate and print them in seconds, and then move on to the next job.

The 30-hour workday. Want more hours? Create 'em yourself. Of course, you'll have to purchase all-new clocks for your shop. And you'll have to get used to doing lunch at weird new times, like 15:45.

If you're serious about significantly increasing your company's billable hours, we can recommend at least two very effective solutions.



Adobe™ Color Central™ automatically creates low-resolution "sample files" for placement in page layouts. This enables your operators to print in, say, 20 seconds (as opposed to 20 minutes), as Color Central automatically replaces the low-resolution image with its corresponding high-resolution image. And Canto Cumulus stores and catalogues all of your images, and lets you conduct a search based on over 20 variables, such as image name and type. No more hunting through SyQuest cartridges, hard disks, CDs or opticals. Plus, it accepts all file types.



Of course, the best place to run these programs is on your new Workgroup Server from Apple. For details on Workgroup Servers, call 1-800-538-9696 (ext. 930) to receive our free publishing information kit. And discover the power of higher productivity.

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FOCUS ON

From Page 14

should also extend the life of Mac DSP acceleration by freeing it from NuBus limitations, perhaps even doubling performance on processor-intensive filters such as Gaussian Blur and Unsharp Mask.

But raw performance is only one aspect of the Mac's advantage in running Photoshop. Notwithstanding the forthcoming plug-and-play capabilities of Windows 95, the Mac still offers easy connectivity to a wide range of peripherals, including hardware-based monitor calibration and the new breed of color-measurement instruments.

Color-management systems are also becoming increasingly important, and here the Mac has a clear lead. Color management is generally more highly evolved on the Mac, and with the advent of ColorSync 2.0 and forthcoming profiling tools from Candela Systems Ltd., Linotype-Hell Co. and others, Mac color management is maturing.

Some users are finding the migration from Windows to Mac relatively painless. Steve Pollock, who runs Philadelphia-based Steve Pollock Photography, has been doing digital imaging on Intel hardware for seven years, but when he decided to replace his aging 486 machine and realized that his video card wouldn't support Windows NT, he bought a Power Mac 8100/80.

"I just wasn't looking forward to spending three weeks under the desk getting everything to work," Pollock said. "But mostly I was frustrated by the limited support for Kodak's KCMS color-management system and the lack of a Windows version of [HSC Software's] Live Picture.

"The Mac just slipped together so nicely," he said. " It's a pretty loaded machine, with 136 Mbytes of RAM, a Wacom tablet, DAT, SyQuest, a Hewlett-Packard scanner, but it only took a day and a half to get everything working."

Reliability and incompatibility are also issues in the PC world, with Windows 3.1, Windows for Workgroups, Windows NT and early-adopter versions of Windows 95 all trying to coexist. "There are so many wrong decisions you can make on the PC," Pollock said. "You buy this graphics board and that drawing tablet and find that it's impossible to get pressure sensitivity." Photoshop's identical interface on both platforms made the switch easy. "I just turn on the Mac and double-click Photoshop," he said. "Novell's networking is completely seamless."

Pollock said his dealings with service bureaus have become considerably simpler now that he sends Mac files. "I'm plenty happy I did it," he said. □

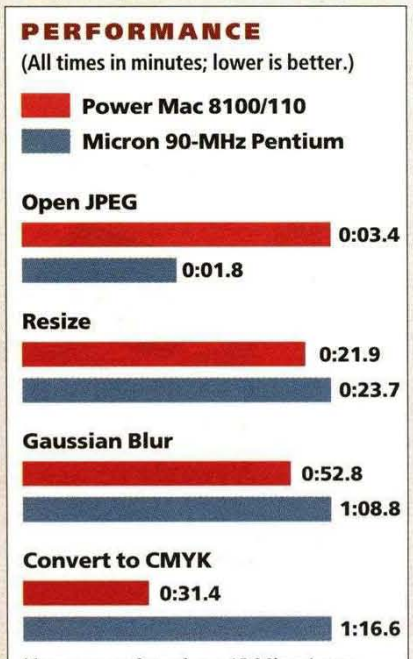
PHOTOSHOP 3.0

Adobe Photoshop 3.0 stretches the limits of a computer's main subsystems, making it well-suited to benchmark testing. Hard disk performance is crucial because the size of Photoshop documents necessitates spooling parts of an image to a scratch disk.

The Power Mac version of Photoshop not only frequently produced better benchmark numbers but generally felt peppier to use than the Pentium version. In addition to substantially faster screen redraw, the Power Mac was often faster at switching tools, cutting and pasting, and selecting. The Pentium was faster at opening and saving but sometimes seemed slower than the Power Mac when swapping data to the hard drive.

PERFORMANCE

(All times in minutes; lower is better.)



Tests were performed on a 15-Mbyte image.

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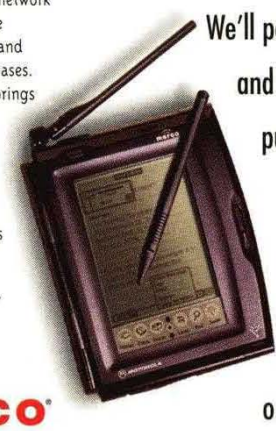

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MOTOROLA

1-800

Projectors show big images

By James Staten

Educators and sales professionals can now speak to larger groups thanks to new projectors from nView Corp. and Proxima Corp.

nView shipped the nFinity series, two projectors based on a 6.5-inch active-matrix LCD capable of displaying images with a palette of 14.5 million colors with a contrast ratio of 100-to-1. The units feature a 410-watt halogen lamp that can output 120 lumens to display images measuring up to 12 feet diagonally.

The P110, priced at $6,795, supports two simultaneously connected computer sources. The P115, priced at $7,295, supports two computer and two video sources, including S-VHS. A video upgrade for the P110 is priced at $595.

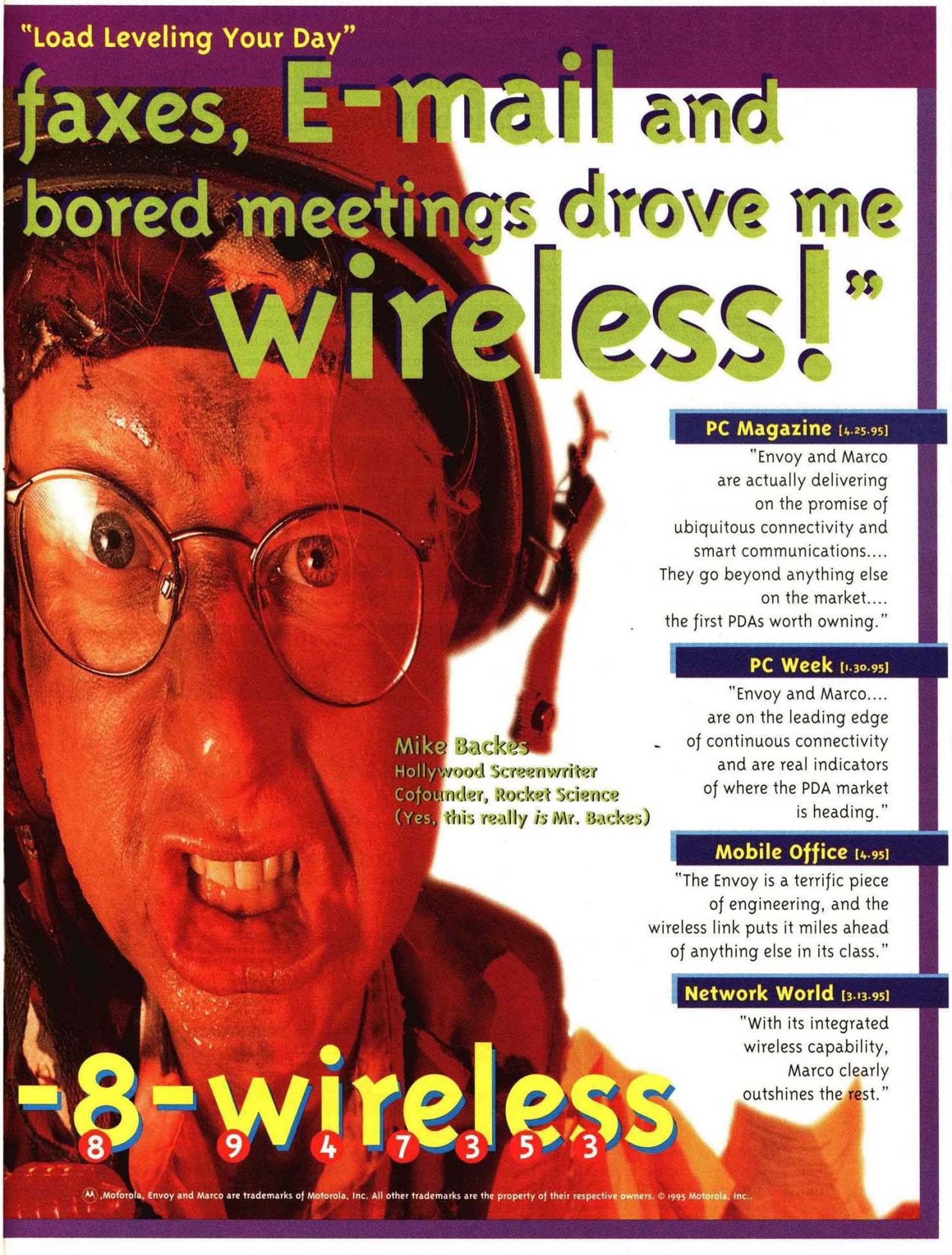
Also provided are built-in stereo speakers; sound output for external speakers; and on-board and remote controls for brightness, contrast, volume and source selection. Both also feature nView's QuickSwitch lamp changer, which allows a presenter to replace a burned-out lamp instantly. The devices weigh 19 pounds each, measure 15 by 12 by 6 inches and feature a retractable lens.

Proxima in June will ship the Desktop Projector 5100. The $9,495 projector uses a 250-watt metal-halide lamp, dichroic mirrors and three 1.3-inch polysilicon active-matrix LCD panels. It delivers 300 lumens to project 24-bit-color images measuring up to 30 feet diagonally. The 5100 sports a 16-to-1 zoom lens; has a 200-to-1 contrast ratio; and can project images down from a ceiling-mounted position, forward from table-top positions or reversed in a rear-screen orientation.

Up to four video sources, two computer and two video, can be connected simultaneously, and users will be able to switch among them via on-board or remote controls. Weighing 23 pounds, the device measures 17 by 12 by 6.5 inches.

nView Corp. of Newport News, Va., can be reached at (804) 873-1354 or (800) 736-8439; fax (804) 873-2153.

Proxima Corp. of San Diego is at (619) 457-5500; fax (619) 457-9647. □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Mike Backes
Hollywood Screenwriter
Cofounder, Rocket Science
(Yes, this really is Mr. Backes)
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PROmotion

From Page 14

had to cut, copy and paste it into your art program," said beta-user Clarence Sheridan, a Broadway performer in New York. "You never knew if you got everything off the frame. Now you can just save it and open it in Photoshop."

Also new to Version 1.5 is a cue that fades out actors or objects and an onion-skinning feature that lets users see layered animation cels in a single view.

A number of key functions increase efficiency, the company said. When users Command-double-click on an actor or prop, the program now switches to the Paint Editor window. Pressing the Option key while resizing an animation window disables the automatic centering functions.

Upgrades are $35.

Motion Works Corp. of San Francisco can be reached at (415) 541-9333 or (800) 541-8068; fax (415) 541-0555; info@motionworks.com. □

PhotoFix

From Page 14

Pencil and Color Sampler, and selection tools include a Magic Wand. The program has 32 levels of Undo.

PhotoFix is compatible with Photoshop plug-ins, including Acquire modules for scanners. The application supports Photo-CD image input.

A built-in browser lets users catalog and view images. Double-clicking on any image in the browser opens it in PhotoFix. A feature designed to improve output on low-end printers lets users calibrate desktop printers with PhotoFix.

PhotoFix requires a Mac with at least a 68020 processor with 1.5 Mbytes of free RAM and System 7.0 or later.

Microspot USA Inc. of Saratoga, Calif., can be reached at (408) 253-2000 or (800) 622-7568; fax (408) 253-2055; microspot@applelink.apple.com. □

SPECTRUM WIDENS

Cabletron Systems Inc. last week announced a LAN management extension that outputs reports in Web format.

Vendors flood EMA '95 with new e-mail apps

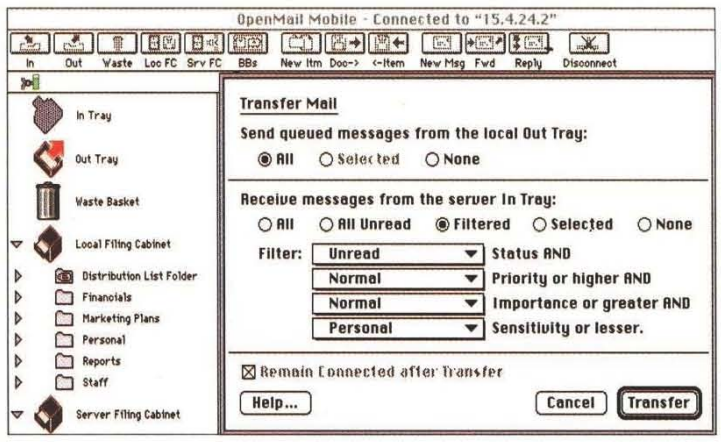
By Nathalie Welch

New Orleans — Despite being caught in torrential rainstorms and deadly floods, attendees of this year's EMA '95 show here caught the latest e-mail technologies.

E-mail managers and users could focus on a subset of vendors introducing products and making Mac announcements at the Electronic Messaging Association's annual get-together.

▶ **Apple.** The company revealed that Transcend Corp. will deliver on some of the messaging-integration promises Apple made with Microsoft Corp. last year.

By the end of 1995, MAPI (Messaging API) service provider software from Palo Alto, Calif.-based Transcend will let users of Intel-standard PCs running Windows 3.x or Windows 95 exchange e-mail with Apple's PowerShare Collaboration Servers. Encryption services and PowerShare catalogs will also be accessible on PCs. Prices for the PowerShare client, which will be sold by Apple, have not been set.



Hewlett-Packard's mobile Mac client to OpenMail will let remote workers connect to the server to send messages composed off-line.

The Apple-Microsoft interoperability agreement was to result in MAPI-to-PowerShare gateways and other software designed to get Apple's PowerTalk users talking with users of the upcoming Microsoft Exchange from Microsoft of Redmond, Wash. (see MacWEEK, Jan. 17, 1994, Page 12).

▶ **Hewlett-Packard Co.** Mo-

See EMA, Page 20

Apple, others extend reach of Mac ODBC

Visigenic lays out plans, bundles

By Clifford Colby

Users of Open Database Connectivity, Microsoft Corp.'s model for managing connections between desktop applications and databases, received a raft of good news recently: Apple, Visigenic Software Inc. and Intersolv Inc. all announced plans to expand the technology's limited influence in the Mac market.

Apple this summer will include Visigenic's 680x0-based and Power Mac-native driver managers for Open Database Connectivity, or ODBC, 2.1 in the standard Mac OS developers kit. Apple will throw in header files, sample files and on-line documentation.

Visigenic plans to release in June its own ODBC 2.1 software developers kit, which will include cursor libraries along with header files and the driver managers for 680x0 Macs and Power Macs. In July, the company intends to offer a $395 pack of Mac drivers for connecting to Informix 5, 6 and 7; Microsoft SQL Server 6; Oracle7; and Sybase SQL Server 4.9 and System 10 databases.

Visigenic, which has exclusive rights to use Microsoft's ODBC source code on non-Windows platforms, said it will release in the first quarter of 1996 Mac driver managers for Version 3.0 of ODBC, which is now in its design phase.

Intersolv plans to ship a native Power Mac driver manager by the end of summer and ODBC 3.0 driver managers for the Mac when the specification is available.

The company released in April its DataDirect ODBC drivers and driver managers for 680x0 Macs. The drivers are $99 each or $499 for a pack of 12. Although Intersolv wrote its own ODBC driver managers for the Mac,

See ODBC, Page 20

Tribe to manage via Web

By Nathalie Welch

Pioneering a new use of Internet standards, Tribe Computer Works Inc. next month will deliver World-Wide Web-based remote management for its combination TCP/IP router and remote-access server, TribeLink2.

Due June 5, the $1,295 device has an Ethernet port and two high-speed serial ports that let Macintoshes, Intel-standard PCs and Unix machines dial in via Point-to-Point Protocol (PPP), connect two LANs over phone lines or link one LAN to the Internet (see MacWEEK, Feb. 6, Page 12).

WebManage lets administrators configure the TribeLink2 IP router and remote-access server using hypertext links in a browser.

In addition to Tribe's standard LinkTracker management software, TribeLink2 will introduce WebManage, a proprietary technology that presents a platform-independent management interface built upon the Web. From

See Tribe, Page 20

FOCUS ON INTERNET

New graphical Web editors loom

By James Staten

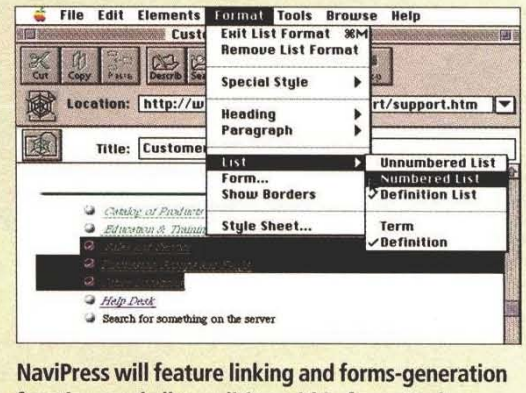
Unix experts may favor creating World-Wide Web pages in HTML's arcane system of text codes, but this goes against the Mac's graphical bent. As a result, new Mac-based "Web-top publishing" tools are racing to market.

Export filters that convert formatted documents in word processors or page-layout programs into HTML, or Hypertext Markup Language, files are the simplest of these tools. Filters handle basic styling, such as alignment, boldness and, in many cases, images, but they do not allow users to convert hypertext links, tables, forms or other advanced elements.

Free filters are available for several programs, including Bare Bones Software's BBEdit, ClarisWorks, Microsoft Word, Adobe PageMaker and QuarkXPress.

One step up the features ladder is a stand-alone program that will serve as an export filter for FrameMaker and will offer intelligent conversion. Due in the third quarter from Austin, Texas-based Quadralay Corp., the $895 WebWorks Publisher will automatically convert all images into

See Focus On, Page 20



NaviPress will feature linking and forms-generation functions and allow editing within formatted pages.

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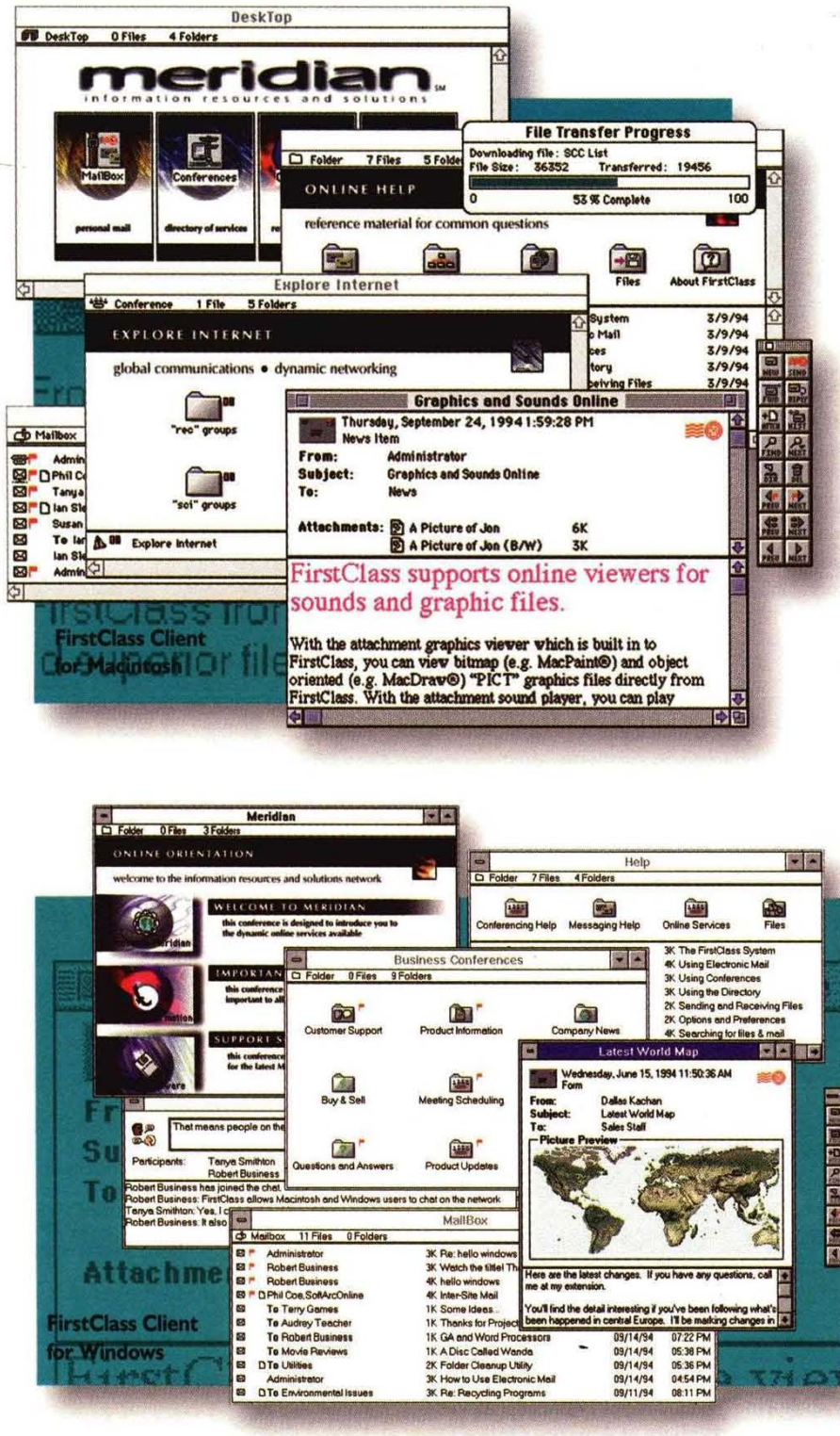
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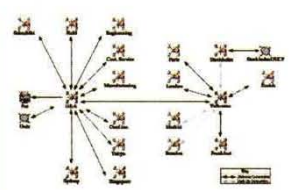

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1994 MacUser UK Editor's Choice Networking Software
1993 MacUser Best New Communication Product
1993 BYTE Award of Merit
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EMA

From Page 18

bile Mac and Windows clients for OpenMail will be delivered in June, according to the Palo Alto, Calif., company. New off-line messaging capabilities will be provided; OpenMail users will selectively download messages from the server and upload replies in batch mode. Pricing will start at $90 per user.

▶ **SoftArc Inc.** The Markham, Ontario-based company said users will see a Power Mac-native client to FirstClass this summer. A native Power Mac server, to be based on the upcoming Version 3.0, is expected in the third quarter of 1995; a free Client Extension Toolkit for creating Telnet, Internet Relay Chat and World-Wide Web browser add-ons to FirstClass will also ship in that quarter.

In the fourth quarter of 1995, SoftArc plans to ship an as-yet-unpriced Windows NT-based SMTP (Simple Mail Transport Protocol) gateway and an update to the $495 Unix to Unix Copy Program gateway that will implement MIME (Multipurpose Mail Internet Extensions).

By the second quarter of 1996, SMTP and Post Office Protocol will be added to the FirstClass server, SoftArc said; in the third quarter of 1996, FTP (File Transfer Protocol), Wide Area Information Server (WAIS) and Web protocols will also be added.

▶ **Shana Corp.** The Edmonton, Alberta-based electronic forms company announced that later in 1995 it will ship Windows versions of its Informed Manager and Informed Designer packages, enabling cross-platform operation with the Macintosh programs.

Shana also announced that extensions linking Informed to Entrust — digital-signature and key-management software from Northern Telecom Inc. — will be available free this summer. Entrust licenses start at $159 per user.

Shana's Informed Manager is $195; Informed Designer, regularly $295, is currently available free.

▶ **Hitachi Computer Products (America) Inc.** Expanding its e-mail directory-synchronization offerings, the Santa Clara, Calif., company announced its $2,995 Universal Agent. The software, which runs on a Unix workstation, can be used to synchronize any e-mail system that can export and import plain-text files, the company said. □

ODBC

From Page 18

Product Manager Brian Reed said he doesn't anticipate compatibility problems between DataDirect and Visigenic's products. "It's straightforward to write a driver manager," he said.

While few Mac products have implemented ODBC in the past, the technology seems to be catching on.

"We feel that ODBC has gotten a bad rap," said Dennis Moore, vice president of product marketing for Oracle Corp.'s tools division in Redwood Shores, Calif. "The initial implementation was not good, but it wasn't ODBC per se. People developing the drivers didn't have a lot of experience with ODBC. Now the quality has improved dramatically."

Visigenic Software Inc. of San Mateo, Calif., can be reached at (415) 286-1900 or (800) 632-2864; fax (415) 286-2464; sales@visigenic.com.

Intersolv Inc. of Rockville, Md., can be reached at (301) 230-3200 or (800) 547-4000. □

Tribe

From Page 18

any client workstation, WebManage provides real-time activity statistics and router configuration options. The controls are protected with a password.

In TribeLink2, WebManage lets managers use hypertext links to navigate between device-management functions and the company's technical support and FTP (File Transfer Protocol) servers, Tribe said.

"It does not do SNMP [Simple Network Management Protocol]; consider it a replacement for Telnet," said Bill Jackson, Tribe director of strategic development. "What we have done is implement a Web server on a network device, and anyone can do it. We are working with other vendors to promote the idea."

Tribe said it intends to make WebManage's core technology, dubbed Hypertext Network Management Platform, available to developers for either a nominal fee or free. The company will also implement WebManage in all future TribeLink products; this summer TribeLink8 will be upgraded to support it.

A two-user license for Tribe's custom client is included to provide AppleTalk client dial-in over PPP. No Web browser is provided.

Tribe Computer Works Inc. of Alameda, Calif., is at (510) 814-3900; fax (510) 814-3980. □

FOCUS ON

From Page 18

GIF (Graphical Interchange Format) and will format tables, equations and hypertext links.

Some Web editors serve as both the page-layout program and the HTML converter, giving users more control over the final Web layout. Robert Best III's $25 HTML Web Weaver 2.5.1 and SoftQuad Inc.'s $195 HoTMetaL Pro are two such editors: They display the HTML tagging codes on screen but allow users to apply the tags in an intuitive way (see MacWEEK, April 17, Page 16, and June 27, 1994, Page 6). Yet neither of these editors provides a WYSIWYG interface. All documents must be loaded into a Web browser for viewing and then reloaded into the editor for changes.

An approximation of WYSIWYG comes in the new $25 WebDoor from Open Door Networks Inc. of Ashland, Ore. The HyperCard-based HTML editor allows users to add links to images and other Web content but not create forms, tables or other advanced elements.

The tool that comes closest to an all-in-one solution is still in beta testing. NaviPress, a client-server HTML authoring system from NaviSoft, a Needham, Mass.-based subsidiary of America Online Inc., integrates its editor with a browser and server. Due later this year, NaviPress will run on Mac OS, Windows 3.1 and Unix Motif with ties to NaviServer, a Web server that runs under several Unix systems and Windows NT. Prices have not been set.

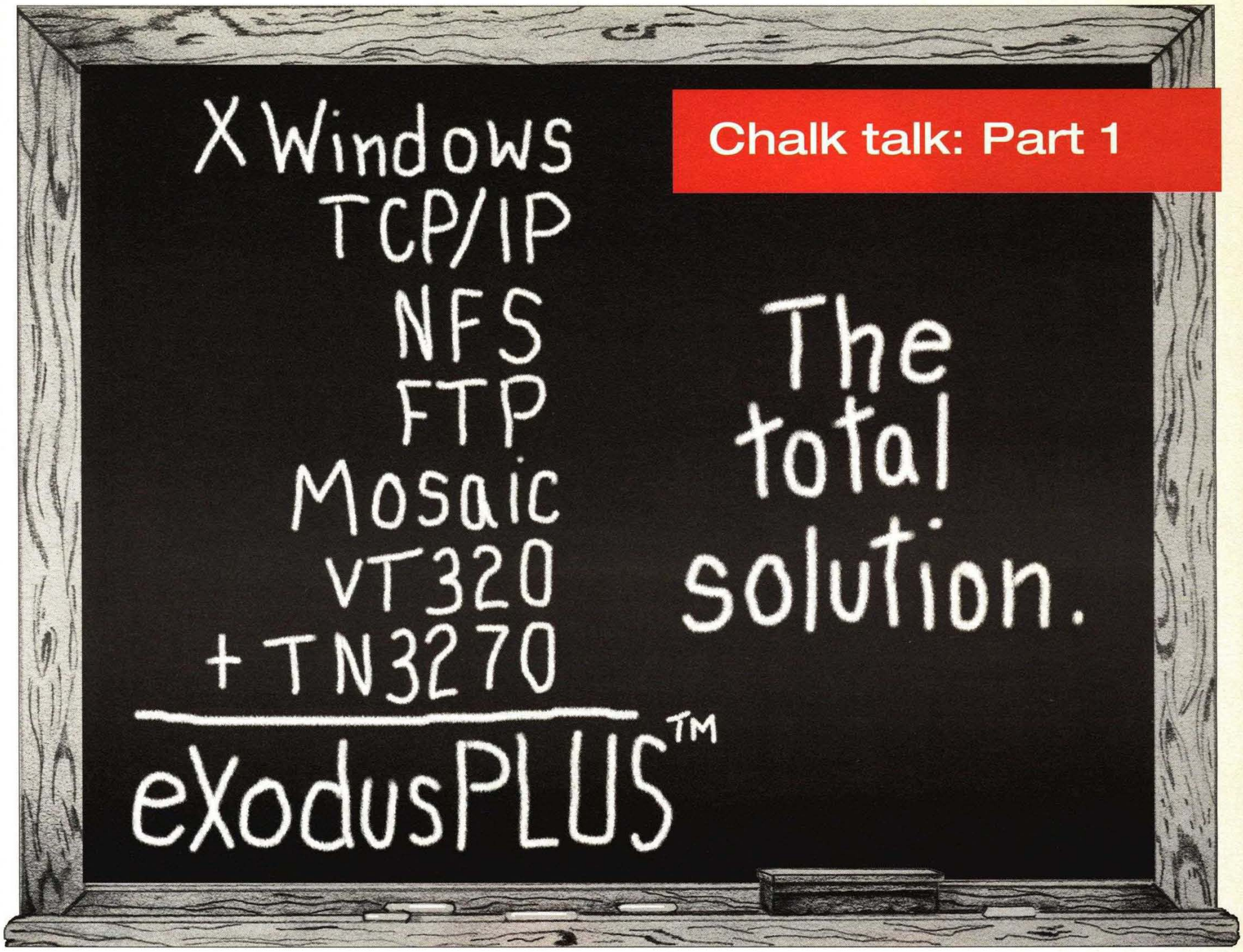
NaviPress will be a WYSIWYG editor with the capability to not only create pages but also help users visualize how Web documents relate to one another. The system will provide HTML templates with inline graphics and forms, which users will be able to customize. All page layout will be done on screen without revealing HTML's cryptic tags. When adding text files to a Web site, the program will automatically convert documents into HTML format and scan through the text to identify words that could be used as links.

The NaviPress editor will also be a Web browser, allowing users to test their hypertext links while creating pages. NaviPress will function alone, without the server, though automatic linking, forms-creation and remote-file management functions will be lost. □

NETWORK TRAFFIC

- **Native Net Watchman 2.2**
- **Sonic cuts transceiver prices**
- **About's tools in Pathworks**

Walnut Creek, Calif.-based **The AG Group Inc.** this month delivered Version 2.2 of its Net Watchman early-warning software. The $295 package now runs native on Power Macs and works with Apple events-based scripting to let users automate responses to network problems. A patch, updating Version 2.1 users, is free. ... **Sonic Systems Inc.** of Sunnyvale, Calif., this month lowered the prices of its Apple AUI (attachment unit interface) Ethernet transceivers. Twisted-pair and thin-net microAAUI boxes are now $39.95 each, down from $55. The company also announced a special price of $74.95 for two. ... **Digital Equipment Corp.** of Maynard, Mass., this month will offer a version of Pathworks for Macintosh that comes with communications software modules from Cupertino, Calif.-based **About Software Corp.** Digital will sell About's TCPack for Telnet terminal and TCP/IP socket-to-socket services as well as FTPack, an FTP (File Transfer Protocol) tool. A client kit will be $185; client and server software will be $250. ... **Grand Junction Networks Inc.** of Fremont, Calif., plans to release this week its FastHub 100T/FX. The $4,495 Fast Ethernet repeater, intended for linking devices on 100BASE T copper LANs to a fiber-optic backbone, will come with 15 ports for unshielded twisted-pair connections and one for multimode fiber. ... In July, **HBM/datagraf** of Austin, Texas, will deliver an ISDN (Integrated Services Digital Network) gateway to connect TCP/IP or NetWare Ethernet LANs. OverLAN ($2,195 for two or $1,195 each) will run at data rates of up to 128 Kbps. The unit will use multilink Point-to-Point Protocol and will offer twisted-pair, thin-net or thick-net LAN interfaces. ... **Fore Systems Inc.** of Warrendale, Pa., last month delivered Version 3.0 of its Asynchronous Transfer Mode (ATM) software, ForeThought, which implements LAN emulation, switched virtual circuits and Internet Protocol over ATM. The upgrade complies with User to Network Interface Version 3.0, Fore said. Pricing starts at $51.95. ... In June, **Network Express Inc.** of Ann Arbor, Mich., will release two versions of its NElink-1000 line of ISDN bridge/routers: the $2,995 B2, with two connections, and the $4,995 B8, providing up to eight connections. In addition to TCP/IP routing, the units will bridge AppleTalk and IPX. ... Available now, the Excalibur BRI 2000 terminal adapter from **Racal-Datacom Inc.** of Sunrise, Fla., provides an interface for Basic Rate ISDN. The $1,195 unit does not require an external NT-1 adapter. Hardware, system and network diagnostics are provided, plus call-line identification and password security. ... In June, **Worldtalk Corp.** of Los Gatos, Calif., will ship its Open Directory Server, a repository based on X.500 technology from **ICL Inc.** of Reston, Va. The server will store databases, e-mail address books, in-house telephony directories and network operating system naming services. Systems will cost from $9,950 to $39,950. □



Chalk talk: Part 1

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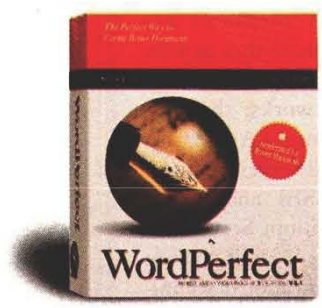

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— InfoTech

Apple's new sales pitch

Touts aggressive approach with hard-hitting ads

By Jon Swartz

San Jose, Calif. — Apple has declared marketing war on the competition, sort of.

Emboldened by the belief that Windows 95 isn't all it's cracked up to be, company executives served up uncharacteristically tough talk to raucous cheers at the Apple Worldwide Developers Conference here this month.

"Having looked at Windows 95 in depth, there is a great self-confidence at Apple in terms of comparing Windows to the Mac OS," said Michael Mace, director of Mac platform marketing. "We see an enormous Mac advantage in DOS/Windows compatibility, licensing and innovation. And we will back that up with ads."

Dan Eilers, Apple senior vice president, worldwide marketing and customer solutions, told developers to expect more advertising similar to a Christmas TV spot last year showing how much easier it is to set up a Mac than an Intel-standard machine. "Print [ads] have not been hard-hitting and have not articulated the Mac advantage," he said. "We are working on it."

But Apple isn't looking for a fight with Microsoft like AT&T Corp. vs. MCI Communications, according to David Nagel, senior vice president, worldwide R&D. "We will be more aggressive and informative than the last few years, without being obnoxious," he said.

The Mac user profile

- 18 million worldwide
- Half earn more than $60,000 a year
- Three-fourths have a college degree
- More than half own two or more Macs
- Clustered in publishing, communications, R&D and education
- 11 percent of Power Mac buyers are replacing PCs
- 29 percent are first-time personal computer buyers
- One-fifth use faxes

Source: Apple.

Sources expect Apple to launch an estimated $25 million TV and print advertising blitz in the fall. The ads are expected to stress the RISC performance advantages of PowerPC, claim a larger pool of native PowerPC applications and better multimedia features than the Microsoft operating system, and highlight Windows and DOS compatibility via the PCI (Peripheral Component Interconnect) bus, the DOS Compatibility Card and SoftWindows 2.0.

Analysts said Apple's feistier turn — after years of unfulfilled promises and halfhearted marketing campaigns — is long overdue. "It's time for Apple to move beyond lip service," said Ken Lim, chief futurist at The Cyber-Media Group of Cupertino, Calif. "Not only must they make direct-comparison ads, they need to show them on network TV more often."

Microsoft is pumping an esti-

See Marketing, Page 26

Apple launches Workgroup Server programs

By Don Monkerud

Apple Workgroup Server dealers will have a new way to show off their networking know-how, thanks to two Apple USA programs announced this month.

More than a year in the works, the programs — Apple Certified Server Engineer (ACSE) and Apple Premium Server Reseller — will provide certification of technical expertise for systems engineers as well as incentives for resellers specializing in server sales and service.

"I'm really excited," said Michael Koidahl, president of Westwind Computing Inc., a value-added reseller in Seattle. "These programs will give the customer assurance that we have the credentials and training to configure a network so Apple servers will work as an effective business tool."

In addition, the reseller council that was formed by Apple advised setting high standards for certification and inclusion in the programs. "Apple went out of its way to include resellers' input," said Mark Gobal, general manager of Oak Brook Computer Centre, a reseller in Oak Brook, Ill. "As a high-end reseller, we wanted a way to increase our sales and service."

ACSE will provide tests on AppleShare server management, AppleTalk network design and AppleTalk network management. ACSE certification will focus on accomplishing network tasks, said Lynn Heiberger, managing partner of Network Frontiers in San Francisco, which has been authorized to certify dealers.

Heiberger said most of the four-day classes will concentrate on network troubleshooting. "We'll show [users] how to get the job done," she said.

According to Jan Burton, brand manager for server networking products at Apple, the programs will support resellers who have cultivated hardware and software expertise in workgroup solutions. "We want to make sure this program has teeth and isn't just a pretty plaque," he said. □

Dayna puts spin on two new subsidiaries

By Jon Swartz

Focusing on the Mac market, Dayna Communications Inc. has spun off two subsidiaries in hopes of widening its scope in cross-platform markets.

Brad Romney, CEO of the networking company, said Dayna will initially fund the start-ups as well as sell their products. He said the spinoffs will develop and market products independently.

"It's important for these start-ups to go out and develop products and relationships with [Intel-standard] PC companies," Romney said. "Because of [its] attention to Mac products, Dayna may have been an inhibitor to that."

Both unnamed companies, which employ less than 10 people each, will be headed by former Dayna executives and operate out of Dayna's Salt Lake City headquarters for the next few months.

Lynn Alley, co-founder and former chief technology officer, will head a subsidiary specializing in remote-access products, including the DaynaLINK line of Apple Remote Access-compatible and multiprotocol servers. The group will also work on cross-platform solutions for mobile remote access.

The other subsidiary, led by Dana Harrison, former vice president of marketing, will develop wide-area wireless products. However, the group will not inherit DaynaComm Roamer wireless products, since those are wireless LAN devices. They remain under the parent company.

Analysts applauded the restructuring. "It allows Dayna to concentrate on what they do best [Mac development] and diversify at the same time," said Mary Petrosky, senior analyst at The Burton Group of San Mateo, Calif. □

Shiva-NT deal: Technology swap

Shiva Corp. and Northern Telecom Inc. last week said they have agreed to jointly design and market products for carriers, Internet service providers and corporate sites.

The agreement will focus development efforts on a new product: an Internet remote dial-up switch, which is a large-scale version of a remote-access server. The agreement between Shiva of Burlington, Mass., and NT of Richardson, Texas, includes software, support, technology sharing, joint development, and sales and marketing.

Internet access using the Shiva-NT technology will enable carriers and Internet service providers to more cost-effectively reach home-based and nomadic Internet users, the companies said.

According to Dataquest Inc. of San Jose, Calif., about 12 million new Internet accounts will be opened in 1996. □

MacWEEK index
Q1 1995 DOMESTIC PC SALES

RANK	COMPANY	UNIT SHIPMENTS	MARKET SHARE (%)
1	Packard Bell Inc.	591,000	12.7
2	Compaq Computer Corp.	530,000	11.3
3	Apple	477,000	10.2
4	IBM Corp.	410,000	8.8
5	Gateway 2000 Inc.	251,000	5.4
	Others	2,407,000	51.6
	Total	4,666,000	100

Source: International Data Corp.

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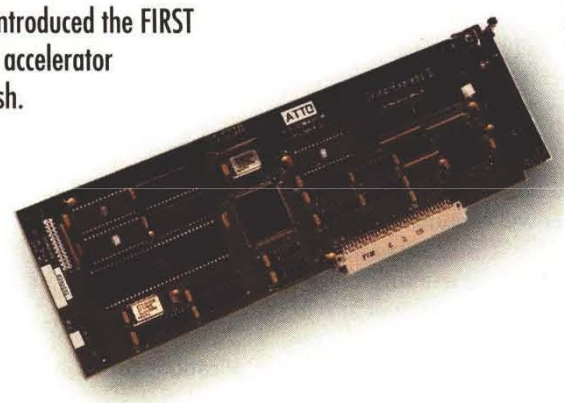

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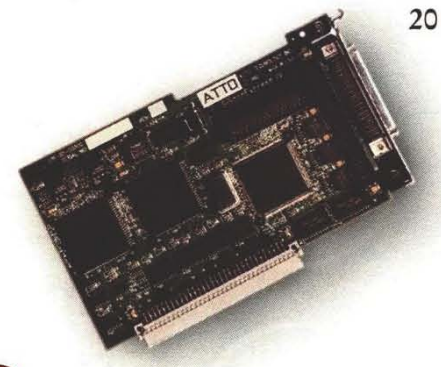

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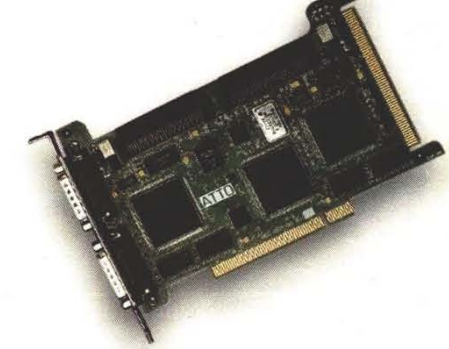

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Marketing

From Page 24

mated $100 million into its launch of Windows 95, which is due in August.

But Mace said he is heartened by several trends among users that money can't buy. According to the Software Publishers Association of Washington, D.C., he said, Mac software sales improved 21 percent last year, while DOS/Windows sales increased 17.5 percent. Meanwhile, internal Apple research revealed that 54 percent of Mac users own two or more Macs.

WWDC attendees said they found Apple's marketing presentation and newfound aggressiveness encouraging. "I'm normally platform-agnostic, but I'm very impressed by OpenDoc," said Michael Dell Orfano, principal of Interactive Appraisal Solutions, a Medford, Mass.-based PC consultant for East Coast banks. "It has me leaning toward the Mac." □

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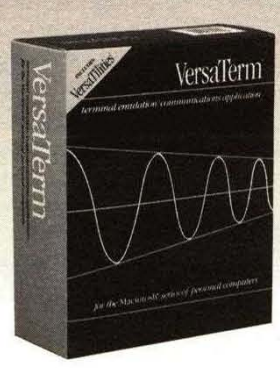

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Maples resigns from Microsoft

By Jon Swartz

Bill Gates' inner circle is growing after he lost one of his top lieutenants.

Microsoft Corp. announced three additions to its Office of the President following the resignation of Mike Maples last week. The company said the reorganization was necessary to accommodate the $5.8 billion software giant.

Maples, 52, executive vice president of worldwide marketing, joined Microsoft in 1988 after 23 years at IBM Corp.

Redmond, Wash.-based Microsoft appointed three new vice presidents to take over Maples' product development duties. Paul Maritz will head the platforms group (operating systems and databases), and Pete Higgins and Nathan Myhrvold will jointly oversee the applications and technology group (software applications, CD-ROMs, Microsoft Network on-line service and consumer products).

Executive vice presidents Bob Herbold and Steve Ballmer will continue to work in the Office of the President, created in 1992 to advise CEO Gates on long-term strategy.

Sources hinted that Gates will try to keep Maples in an advisory role after he retires this summer. □

Apple loses PDA market share

By Jon Swartz

Apple got a smaller slice of the PDA pie despite a 60 percent increase in worldwide handheld personal computer unit shipments last year.

The company's share of the fledgling PDA market was 15 percent in 1994, or 60,000 units shipped, compared with 32 percent, or 78,000 units, in 1993, according to Dataquest Inc. of San Jose, Calif.

Overall, 390,000 units shipped worldwide last year, up from 244,000 in 1993. Still, the market has yet to live up to the high sales expectations of its proponents, according to analysts.

"Clearly, the reality of the handheld market has not caught up to the lofty predictions made by company executives and some industry pundits back in 1993," said Kimball Brown, vice president and principal analyst of Dataquest's Mobile Computing program. "Then again, very few emerging technologies would be able to deliver on the hype that was heaped upon handhelds from the outset."

Industry observers said a lack of Newton hardware announcements last year hurt Apple's standing in the PDA market.

Hewlett-Packard Co. maintained its dominance of the market, although its market share declined. The Palo Alto, Calif., company shipped 106,000 units last year; which accounted for 27 percent of the worldwide market. In 1993, HP moved 97,000 units, or 39 percent. □

OFF THE WIRE

- **General Magic's profits disappear**
- **Merger mania marches on**

General Magic Inc. announced its first-quarter results this month, and they weren't pretty. The Sunnyvale, Calif.-based developer of personal intelligent communicators lost $3.6 million for the three-month period ended March 31, compared with a loss of $5.1 million in the same quarter a year ago. General Magic's quarterly sales were $4.2 million; the company did not report sales last year because it was privately held. ... The executive merry-go-round continued to spin last week. When the ride was over, two more executives had hopped aboard companies with Mac products. Jeffrey Waxman landed at Orem, Utah-based **Novell Applications Group** as executive vice president and general manager; meanwhile, Stephen Lorentzen is the new president and CEO of **Blyth Software Inc.** of Foster City, Calif. ... Acquisitions continued unabated in the personal computer market. **Block Financial Software,** formerly Meca Software Inc., last week was purchased from **H&R Block Inc.** of Kansas City, Mo., by BankAmerica Corp. of San Francisco and NationsBank of Charlotte, N.C. The two banks plan to offer joint ownership to other financial institutions, hoping to create an on-line banking presence. ... **MicroTouch Systems Inc.** of Methuen, Mass., in April announced it has signed a deal to buy fellow touchscreen maker **Touch Technology Inc.** of Austin, Texas. Terms of the deal were not disclosed. ... Market researcher **BIS Strategic Decisions** of Norwell, Mass., this month was sold to **Giga Information Group,** an investment group in Fairfield, Conn., for an undisclosed amount. ... **Apple** this month said a handful of shareholder lawsuits filed against the company dating back to July 1993 were withdrawn by the plaintiffs. □

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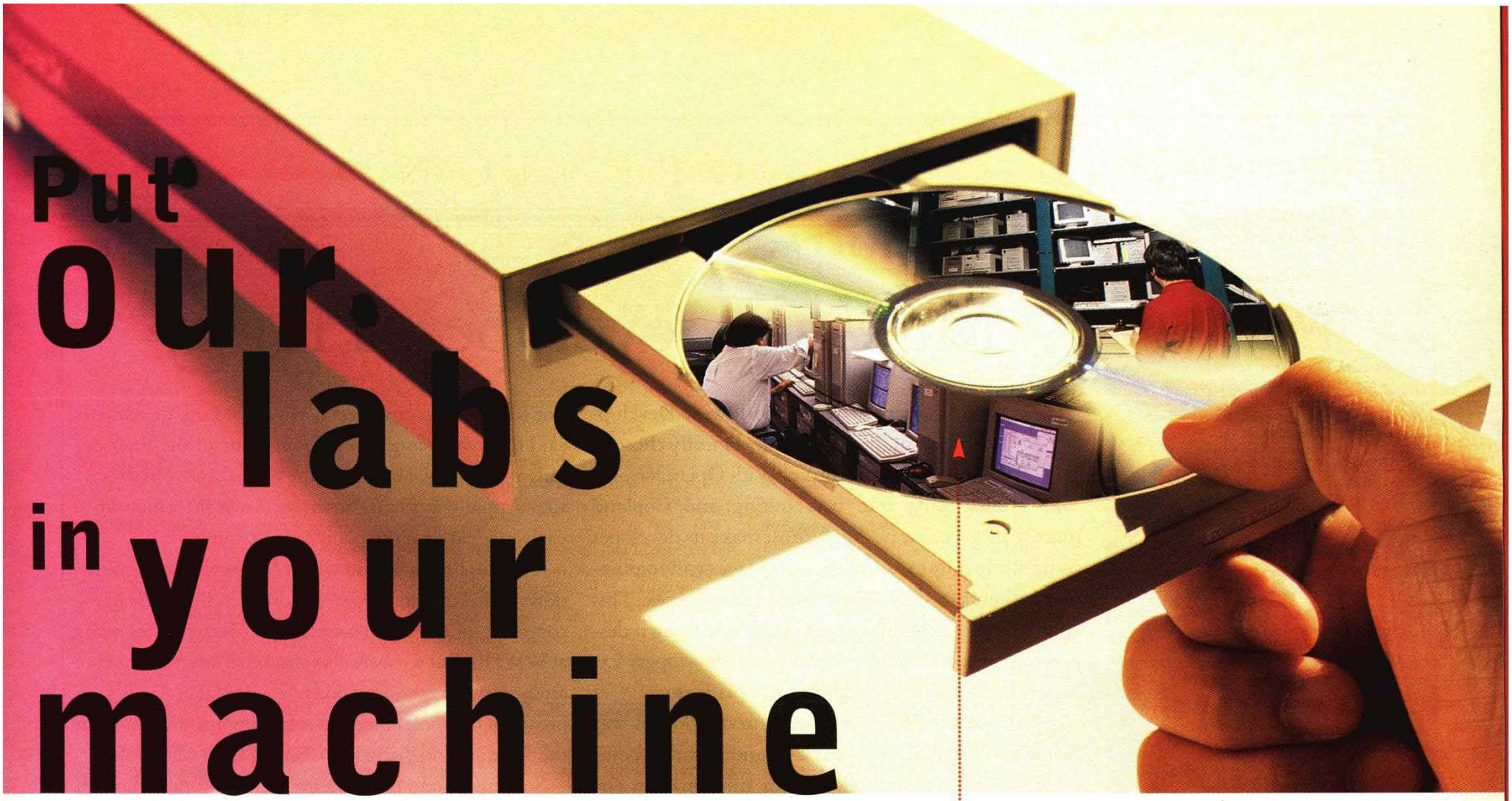

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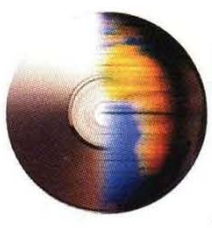

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BPA INTERNATIONAL

Making Developers Happy

At the recent Apple Worldwide Developers Conference, Apple logically chose to focus on the future. With OpenDoc only going into beta testing and Copland more than a year away, Apple must make its developer community fully aware of the advantages and requirements found in these cornerstone technologies. This approach to the conference got Apple one thing it desperately needed: faithful third-party developers excited about their future with the Mac platform.

What made WWDC so special to developers was Apple's willingness to discuss Copland in such technical detail in a semipublic forum this early in the process. Sure, there were a few secret, nondisclosure meetings that were off-limits to all but a chosen few, but the general tenor of WWDC was one of openness.

Many developers noticed a new attitude in Apple's presentations this year. The forthrightness about the underpinnings of Copland and Apple's frank discussions about what will and won't work with it was the hot topic in the crowded hallways. Many developers said they were concerned about some of the finer details and potential bumps in the road ahead, but the fact that Apple was giving them so much information so early made it easier to plan for the trouble.

This has been a year in which Microsoft Corp.'s Windows 95 has overshadowed almost everything else in the computer industry, and it was a topic of concern for many at WWDC. But we were also pleased to hear a number of cross-platform vendors who said they felt that Apple's approach at the conference was refreshingly different from the direction and discussions coming from Microsoft.

Sure, users and implementers are the ones who will ultimately make or break an operating system like Copland, but those aren't the people Apple should be focusing on right now. Apple appears to realize that marketing an OS really does have to start with the third parties that develop applications for it. It still has a long road ahead of it, but the journey it started two weeks ago at WWDC is a good sign for all of us. □

THE SECOND DECADE HENRY NORR

FireWire endorsement a smart move for Apple

Ah, the perils of punditry. I predicted in print that for the foreseeable future FireWire will "remain an optional extra" on both Mac and Windows machines (see MacWEEK, May 8, Page 22), and just days after the column appeared Apple officials went and disclosed that they expect to "migrate FireWire to the motherboard" by 1997. That's not as soon as I'd like, but it's definitely foreseeable.

Embarrassing as this news is, I'm delighted by it — not only because FireWire is hot stuff, but also because it means I can stop worrying that Apple was once again failing to capitalize on terrific homegrown technology for want of consistency and follow-through.

In the Mac tradition

FireWire is an industry standard — it's known technically as IEEE P1394 — but Apple engineers played key roles in its development, and the company holds patents on several aspects of it. Most important, it represents a major advance in two areas that have always been central to the Mac: on the one hand, ease of expansion and configuration; on the other, support for the integration of new data types.

FireWire's features have been discussed in these pages regularly since 1992. It offers throughput of 100 Mbps, but 200- and then 400-Mbps implementations are coming soon. That's enough bandwidth to support — simultaneously — both hard drives (or even arrays) and multimedia devices, such as digital VCRs and video cameras. For example, a forthcoming Sony video camera delivers live video at 30 frames per second yet consumes only 15 percent of the bus's bandwidth.

At least for me, the real attraction of FireWire is usability. It will eliminate most of the hassles that can make SCSI a nightmare: no identification numbers, no termination, no seven-device limit (FireWire will support 63), and no worries about adding or removing devices on the fly. In place of parallel SCSI's bulky and expensive cables and connectors, it will use thin, lightweight cables and a compact connector borrowed from — honest! — the Nintendo GameBoy.

Back-panel makeover

The column in which I downplayed FireWire's prospects urged Apple to endorse the emerging Universal Serial Bus (USB) specification. Does Apple's renewed commitment to FireWire negate that suggestion? Not as I see it, because FireWire provides a high-bandwidth connection for hard drives and multimedia devices, while USB is designed primarily for low- and medium-bandwidth peripherals, such as keyboards, mice, scanners, personal printers, and modems or their digital equivalents. (Microsoft Corp., interestingly, is promoting just this division of labor for future PC designs.)

Macs with USB and FireWire would have no need for ADB, SCSI or GeoPort. Few would mourn the passing of the first two, although adapters for backward compatibility would be welcome. GeoPort is a more complicated issue, one I intend to return to in a future column. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at hnorr@ftp.macweek.ziff.com.

LETTERS

Power Mac is weak link

It seems that everyone is praising the Power Macintosh these days. Let me voice some concerns. To run a DOS-based payroll program, my company purchased a Power Mac 6100/60 with 16 Mbytes of RAM, a 350-Mbyte hard drive and Insignia Solutions Inc.'s SoftWindows.

Although the DOS program ran on SoftPC on a Quadra 605, it did not run on SoftWindows on the Power Macintosh. As a matter of fact, when I contacted Insignia, I was told this problem had occurred before and its technicians were unable to solve it.

Upon installing the DOS Compatibility Card, the system began crashing about 15 times a day! Apple technicians advised us to do just as we had done: use Extensions Manager. After numerous phone calls, Apple sent a service representative to our site.

The person was not from Apple but from Kodak. He ran diagnostics, which resulted in a failed test for the DOS Compatibility Card, so he replaced the card. Once again he ran the test and it failed. He advised my staff to reinstall the DOS software, but the crashes continued.

We brought the 6100 into an Apple Service Provider for assistance. They were unable to determine the problem because they had never received any manuals or diagnostic software for the Power Mac or DOS card from Apple. They replaced the logic board and the DOS card.

Our Power Mac with the new DOS Compatibility Card is working. But my company refuses to purchase additional Power Macs and is strongly considering Intel-based PCs.

Michael J. Walsh
Manager of computer systems
North Shore Animal League
Port Washington, N.Y.

People in glass houses ...

After reading "Apple plans to take shots at Windows 95 glitches" (MacWEEK, May 1, Page 1) I only hope that Apple studies Microsoft and makes sure it's not sitting in the same seat a year from now when it begins to tout Copland's release. Microsoft isn't the only company that deserves a hand slap for the release of an unprepared operating system. With Copland, who knows what features will be cut to make the release date.

Secondly, the Knife (Page 82) mentioned information on SoftWindows 2.0. I'd sooner hear about root canals than more information about a product that's sure to miss the mark by a mile. Can Insignia believe this product, sure to take easily 60-plus Mbytes of drive space, support 486 compatibility but be no faster, is worth $300?

Apple should not sell its PC compatibility in the same sentence as SoftWindows.

Patrick B. Parker
Technical coordinator
College of Pharmacy
University of Minnesota, Minneapolis

This is a Mac magazine

I thought MacWEEK was a Mac magazine, and here Don Crabb is advertising for Pentium PCs (MacWEEK, April 17, Page 25).

Don, wake up and smell the coffee. I read MacWEEK for Mac information. Keep your magazines straight. There are magazines for people interested in PC stuff. Write PC stuff for them; it's a free country.

MacWEEK, your editor fell down on the job. Couldn't he/she see that this had no pertinence to the Mac platform?

Bill Roberts
Scottsdale, Ariz.

Going for the Zip

I haven't bought Iomega Corp.'s Zip yet, but I am recommending it, often for the reasons mentioned in your article (MacWEEK, April 17, Page 26). Maybe it's not the specific product that will replace the floppy, but it is the beginning of a replacement-product strategy. If the drive takes off (and I expect it to do so), the price of its media may well drop to $10.95, with five-packs for $49 and 10-packs for $89.95. At that point, corporate America will bite, so will universities, and floodgates will open.

If Zip doesn't make it, the next iteration of the product will. Then it will be a matter of time until the drives show up with an internal option, in a higher capacity, say 250 Mbytes.

We all vote with our wallets, for product and for product direction. If we buy, they will listen. Maybe Brother Bill will offer the next release of Office on three Zips instead of 35 floppies.

Simon Goldstein
East Hanover, N.J.

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THE MAC MANAGER DON CRABB

Apple makes the grade at developers conference

I'm tired. Beat. Whupped. Exhausted. Having just completed my 13th Apple Worldwide Developers Conference, my brain is suffering from both information overload and ennui.

Progress report

How did Apple do? Did developers get what they needed? Does Apple have a clue? And most importantly, does Apple finally have a business model that won't put all of us out of the Mac operating system business? Read on for my grades.

▶ How did Apple do? For the most part the company did not embarrass itself with silly or superfluous presentations, except for Senior Vice President Dan Eilers' marketing keynote. Giving developers a talk that can be boiled down to "go out and make great products" was a boner.

Worse, the many developers who bent my ear were insulted. Eilers should have been telling them about the real co-marketing programs Apple will be running to help them, the brilliant advertising it will use to generate sales, or the Copland PR initiatives it will create to generate excitement.

Grade: B for conference, F for Eilers

▶ Did developers get what they needed? Maybe. If you needed detailed OpenDoc implementation info, you got it. If you needed detailed implementation info for QuickDraw 3D, QuickTime VR, AppleScript and other core technologies, you probably got it. If you needed detailed implementation information about Copland, you got some of it, but you were disappointed in the number and kind of demos you saw. If you needed detailed technical breakdowns on Apple's future platforms, you left disappointed.

Grade: B-

▶ Does Apple have a clue? Yes, on some things. This WWDC had more substance and less fluff than any in recent memory. Apple made a sincere, if incomplete, effort to give developers a unified and detailed view of Apple and Mac OS growth over the next couple of years, including solid information on the impact of Mac OS clones and the state of the Intel-standard PC market.

But Apple missed the boat in getting developers excited. That could have been fixed by automatically seeding all attendees with Copland, by showing specific examples of Copland and OpenDoc marketing plans, and by showing comparisons of Windows 95 on the fastest Pentium with Copland on the fastest PCI (Peripheral Component Interconnect) Power Mac.

Grade: B-

▶ Does Apple finally have a business model that won't put all of us out of the Mac OS business? Most definitely, yes. Apple is becoming a kind of "open systems" company in that it will support open OS technologies (OpenDoc and Copland's hardware abstraction layer) and open hardware technologies (the Common Hardware Reference Platform). Apple expects to use its openness to expand its traditional markets at the same time it uses it to win back the enterprise market.

Grade: A

Extra credit

Kudos to the Apple team that developed the closing session's "We Think We're a Clone Now" video. Funny as hell. Brilliant stuff. Show it off. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.

Comments? Ideas? Contact Eli at elitoons@aol.com

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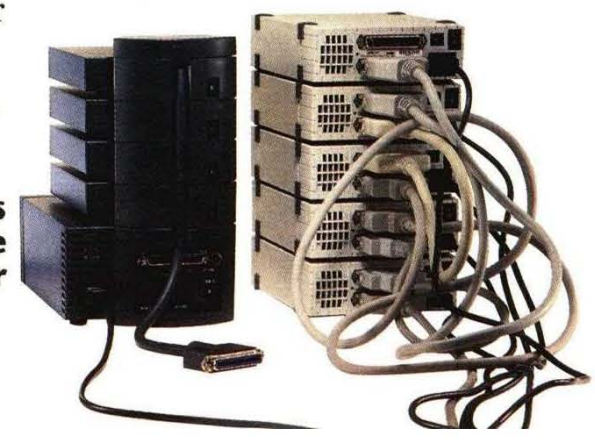

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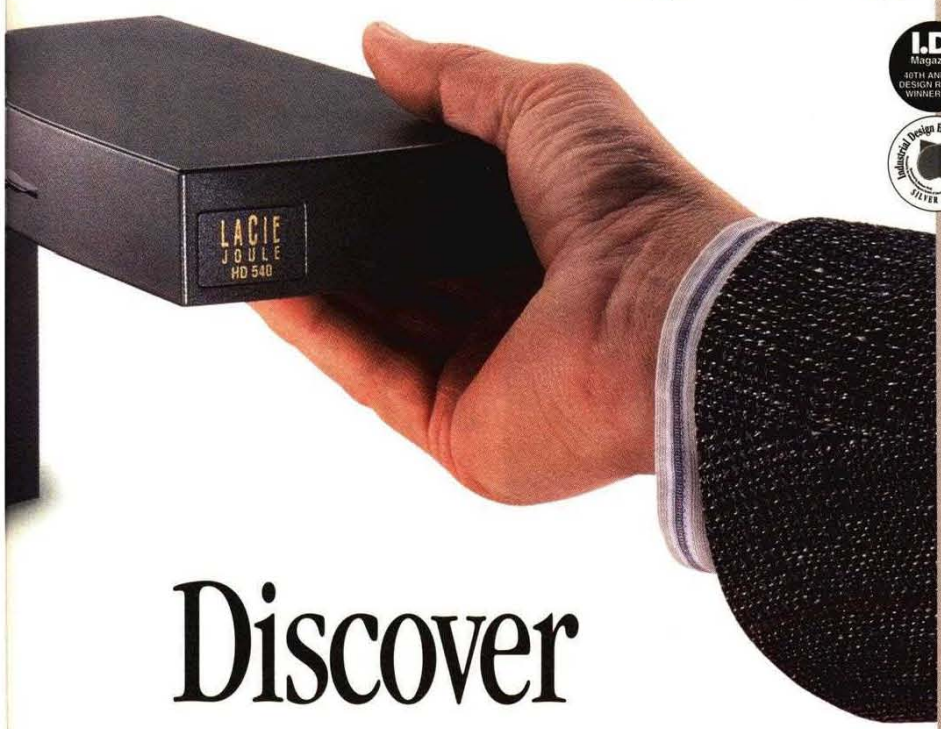

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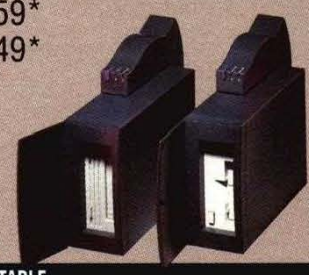

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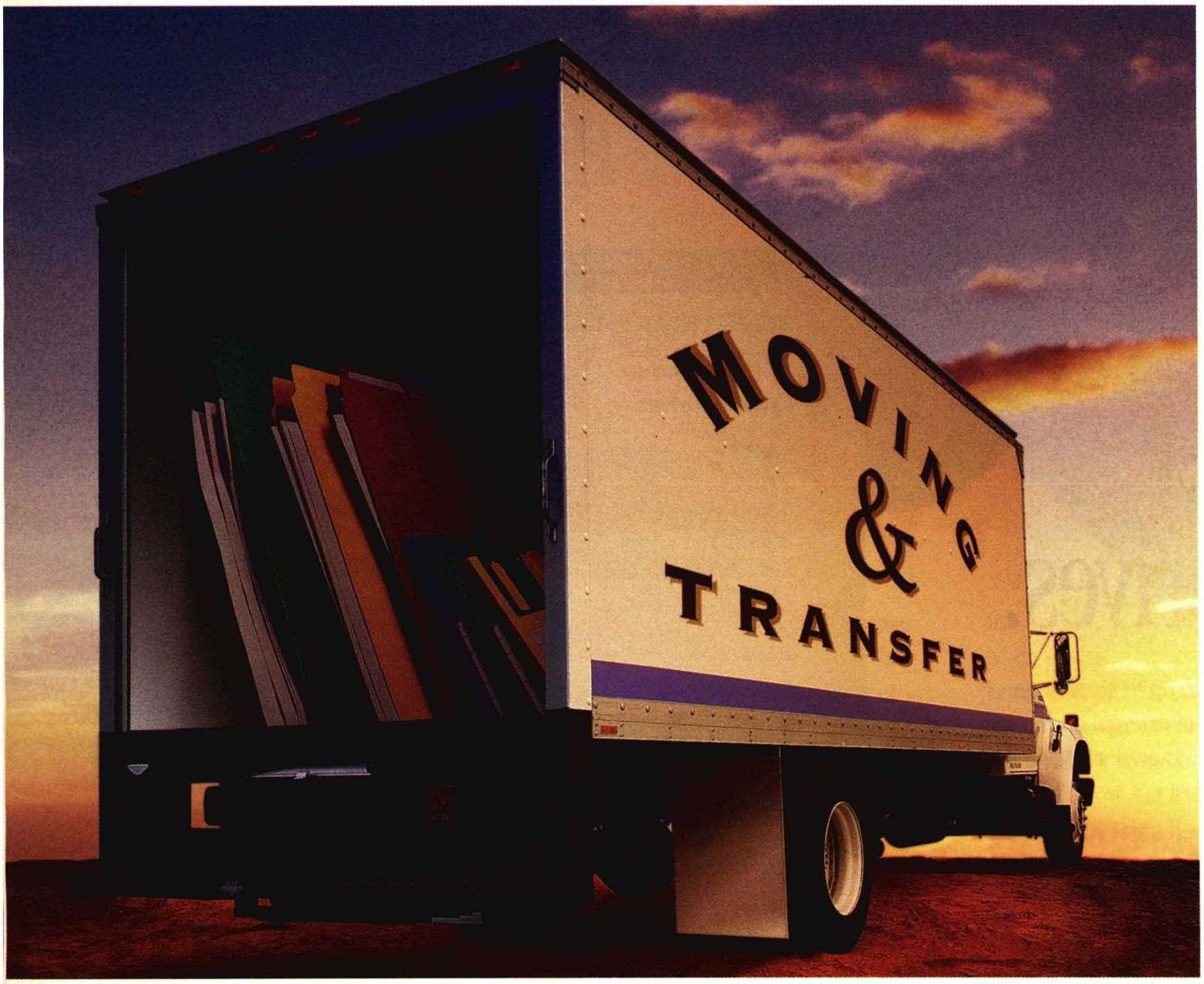

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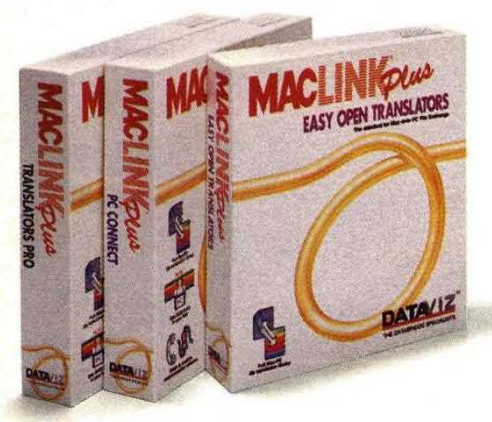

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CPU MEETS PHONE

The telephony market is expected to grow 53 percent per year in the next five years.

— Dataquest Inc.

HP stays at head of monochrome market with 5MP

By Rick LePage

The LaserJet 5MP builds upon strengths; enhancements make it more impressive.

It's no stretch to say that Hewlett-Packard Co. owns a sizable chunk of the monochrome laser printer market, especially at the lower end. The company has consistently one-upped its competitors by offering a better product at a lower price. With its latest offering, the LaserJet 5MP, HP aims to keep its track record intact.

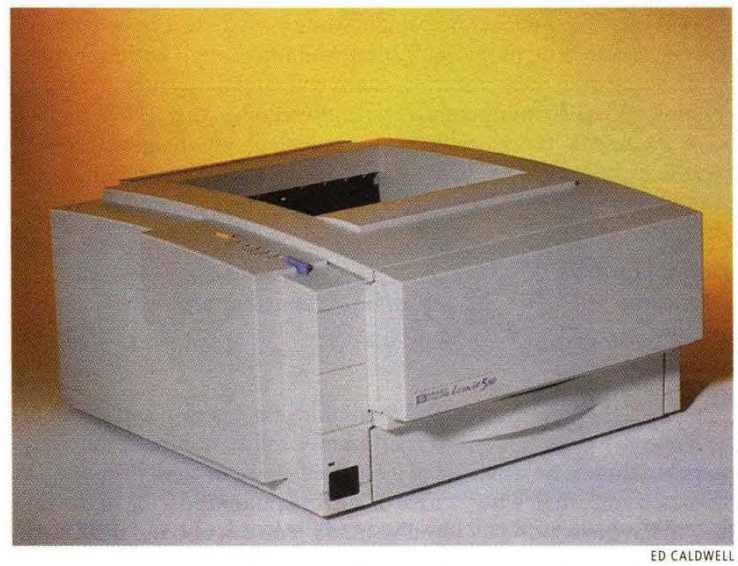
The $1,299 LaserJet 5MP replaces the LaserJet 4MP as HP's entry-level PostScript printer. The 4MP, which debuted in late 1993, was one of the first laser printers to offer true 600-dpi output for less than $2,000. Although it was short on features, the 4MP was extremely successful as a personal or small-workgroup printer. The 5MP builds upon both those strengths and adds some enhancements, making it an even more impressive machine for the money.

The 5MP is based on a 6-page-per-minute Canon print engine and uses a 20-MHz Motorola Coldfire MC5102 RISC chip to power its PostScript Level 2 controller. The engine is rated at 12,000 pages per month, up 4,000 pages from the 4MP. The microfine-toner cartridge is also a new design that HP said will last for about 4,000 pages, an increase of 1,000 over the previous model.

Standard interface options for the 5MP include one LocalTalk and two parallel ports. In addition, the front of the unit has an infrared port for use with portable computers and PDAs. All of the ports can be simultaneously active, allowing you to use the printer effectively in a cross-platform environment. The standard ports and the power connection are hidden on each side of the printer behind separate cable doors, which help keep the cables attached and minimize clutter.

The printer comes with only 3 Mbytes of RAM, light for a PostScript printer, but it's one of the things that helps keep the cost of the unit low. While you can install up to 35 Mbytes of RAM, HP has incorporated Adobe Systems Inc.'s new Memory Booster Technology into the printer, which allows it to print PostScript jobs using less memory than conventional PostScript printers.

Two input trays are available with the printer — a single 250-sheet cassette that can be configured to handle A4, letter- or legal-size paper, and a 100-sheet multipurpose tray that can accommodate the aforementioned paper sizes, envelopes and up to 42-pound card stock. Another improvement over the 4MP is the addition of an output tray for the straight-through paper path, which means that labels, envelopes and card stock won't fall behind desks or tables.



ED CALDWELL

HP's LaserJet 5MP, which is designed for personal use or for small-to-medium workgroups, includes a strong set of printing features and options that sets it apart from the run-of-the-mill laser printer.

The big hype

The most-hyped new feature in the 5MP (and its PostScript-free cousin, the 5P) is its infrared port, which is designed to connect with and print from portable computers compliant with the Infrared Data Association's IrDA point-to-point communications standard. Apple doesn't ship a PowerBook with an infrared link, so it won't help current Mac users, but future PowerBooks will reportedly have this capability (see MacWEEK, May 1, Page 1). Newton users won't be able to take advantage of the 5MP's infrared capabilities because the MessagePad doesn't fully support the IrDA standard for printing.

The infrared capabilities are interesting, but we think Mac users will be more impressed with the care that HP has taken in supporting the platform. Included in the box is everything you will need to print from either the Mac or Windows environment, including a Macintosh Notes guide and standard and QuickDraw GX print drivers.

See LaserJet, Page 35

score card

LaserJet 5MP

Hewlett-Packard Co.
List price: $1,299
Overall value ◆◆◆◆◆

Designed for personal use or for small-to-medium workgroups with basic printing needs, the LaserJet 5MP is a perfect example of why HP owns the monochrome laser printer market. The LaserJet 5MP is the successor to the 4MP at the low end of the LaserJet product line, but HP has done an excellent job of providing the right level of features and innovation at a great price. Based on a 600-dpi, 6-ppm Canon engine, the 5MP's dual input trays, print quality and speed are buttressed by an excellent manual, cross-platform support out of the box and the inclusion of an infrared port for portable computers (which current Macintosh users cannot take advantage of).

Performance	◆◆◆◆
Features	◆◆◆◆◆
Configuration	◆◆◆◆◆
Compatibility	◆◆◆◆◆
Documentation/support	◆◆◆◆◆

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

GeoPort Telecom package makes telephony a reality

From Page 1

don't need PowerTalk to use the system.

The Telecom kit requires an AV Macintosh or a Power Mac, at least 2 Mbytes of RAM, and about 10 Mbytes of disk space. To use the phone capabilities, you'll also need a set of speakers and a decent microphone. Apple recommends the hard-to-find PlainTalk microphone, but we also had success with Apple's AudioVision monitor and Jabra Corp.'s EarPhone (see MacWEEK, Aug. 22, 1994, Page 37).

Making the connection

To set up the kit you simply install the applications and plug the GeoPort pod into a single analog phone line and your modem port, much like a regular modem. The pod, which is slightly larger than a deck of cards, includes a pass-through phone jack for a regular handset. Unlike traditional modems, the GeoPort has virtually no intelligence of its own. All data, fax and voice processing occurs on the computer and is sent out over the host Mac's high-speed GeoPort serial port.

One of the advantages of this software-based approach is immediately apparent. Apple's Express Modem 2.0 control panel, which drives the system behind the scenes, can identify different types of calls and route each to the appropriate program. For example, if you let the computer answer the phone and it detects a fax signal, it will start the fax application and route the data accordingly; if the Express Modem software identifies a voice call, MegaPhone's answering-machine function kicks in. We found this system worked well, although there can be a few seconds of lag in the process that might confuse voice callers.

One limitation many business users will immediately face is that the GeoPort pod does not work with digital PBXes; you need access to either a pure analog line or an analog tap off of a PBX, such as an existing modem line. Apple has plans for vari-

See GeoPort, next page

score card

GeoPort Telecom Adapter kit

Apple
Overall value ◆◆◆◆ **List price: $125***

Apple's second-generation computer telephony product is a powerful tool that combines the capabilities of a digital telephone answering machine, full-duplex speakerphone and a 14.4-Kbps fax-data modem into a single, low-cost system. The programs that make up the system could use more fine-tuning and integration within themselves and to each other, but even their current versions will offer many users a whole new way of interacting with their computers. Cypress Research's MegaPhone is the jewel of the package, giving Mac users a satisfying taste of telephony-integrated computing. MegaPhone's capability to log calls, automatically update a contacts database, schedule calls and integrate voice messages with other computer communications makes it worth the price.

Performance ◆◆◆◆ **Ease of use** ◆◆◆◆
Features ◆◆◆◆ **Documentation/support** ◆◆◆

**Includes 30-day full version of MegaPhone; $49.95 upgrade thereafter.*

Cypress Research's MegaPhone 1.0 is at the heart of Apple's GeoPort Telecom Adapter kit. With Apple's Macintosh Telephony Architecture, it turns your Mac into a speakerphone/digital answering machine.

GeoPort

From previous page

ous types of PBX pods, but those who want to replace their PBX-based voice mail with a computerized one will have to wait.

You make the call

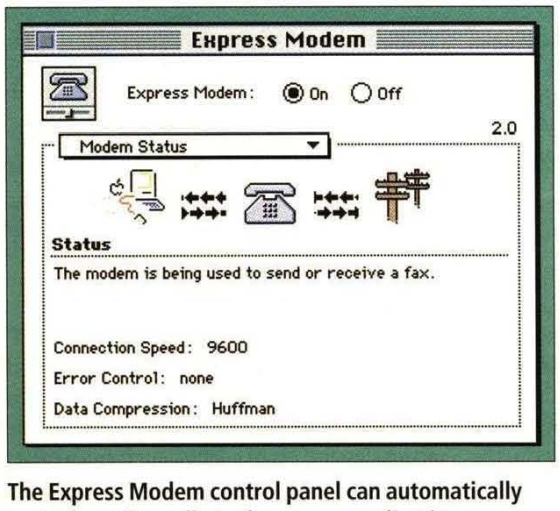
The most interesting part of the Telecom kit is Cypress' MegaPhone application. This turns your GeoPort-equipped Mac into a sophisticated telephone-answering combination that lets you place calls from your computer as well as answer calls, take messages or screen calls while working in other applications. MegaPhone offers all the features you would expect from a sophisticated phone system, including speed dialing, time/date message stamping, remote message retrieval and a full-duplex speakerphone, which means both parties can speak simultaneously without cutting the other off. The audio quality of both the phone and messages is quite good, although it's somewhat dependent on the type of microphone and speakers you use. Unfortunately, the Telecom kit ships with only a 30-day full version of MegaPhone; after that, it reverts to a limited version without call logging, scheduling and other advanced features, unless you pay the $49.95 upgrade price.

MegaPhone includes conveniences that take it well beyond any of today's smartest phones. For example, you can enter alphanumeric characters, look up area codes by typing in the city name, display the name and local time of the person you're calling, track recently called numbers, automatically dial credit card or long-distance prefixes or suffixes, and keep a log of the calls you've made. You can also use the Touch-Tone Navigator to automatically record and play back strings of touch-tone button pushes so that you can quickly find your way through complicated phone systems.

MegaPhone includes a simple contacts database that can be synchronized with other programs, including Now Software Inc.'s TouchBase Pro 4.0. MegaPhone's contact features are convenient to have in a single product but pale in comparison to any existing personal information manager. You're limited to three fields per contact; there are no searching functions; and the overall speed of operations such as sorting, importing and exporting records is horrendously slow. Importing a 580-record TouchBase Pro file took more than an hour and a half.

A more convenient solution is to use a PIM that supports Apple-events dialing. In TouchBase, for example, you can select a contact and tell the program to dial, and MegaPhone will take over. MegaPhone extracts the name of the person you're calling from TouchBase, displays the name in its main window and logs it. However, you can't search the log from the PIM, nor can you schedule a call for a particular contact, as you can from within MegaPhone. But MegaPhone offers AppleScript support, so ambitious scriptors may be able to create a package that integrates the telephone functionality of MegaPhone into a PIM. This would let you automatically track all your phone conversations and integrate phone call and contact information into a single source.

As powerful as the MegaPhone system is, there are some limitations. First, you'll have to get used to talking at your computer, which isn't always as easy as it sounds. Depending on how you position your speakers and microphone, you may have echo or feedback problems over the phone. For privacy reasons, you'll also have to become accustomed to switching back and forth between the computer-based phone and the handset you plug into the GeoPort adapter. Furthermore, to take messages and make calls, you have to keep MegaPhone (and your Mac) running all the time, which will cost you about 2 Mbytes of free RAM. Finally, we experienced some random crashes on our Power Mac 8100, but tests on a 6100 went very smoothly. Apple and Cypress are still trying to determine the cause of the problems.



The Express Modem control panel can automatically route incoming calls to the proper application.

Not just the fax, ma'am

In addition to its voice telephone features, the Telecom kit includes Apple's Fax Terminal software. As with its more full-featured competitors from Global Village Communication Inc. and Delrina Corp., you invoke Apple's fax printer driver by holding down a key combination as you select Print. Unfortunately, Apple's choice of Control-Shift is inalterable and never changed the menu command from Print to Fax in our tests, although it sent faxes without any problem. Apple also offers a QuickDraw GX driver for drag-and-drop faxing. Neither driver supports gray-scale sending, nor does the separate Fax Viewer support gray-scale viewing, but the Viewer does offer dithering.

> As powerful as MegaPhone is, there are some limitations: You'll have to get used to talking to your computer, which isn't as easy as it sounds.

The Viewer also includes basic OCR technology, licensed from Mimetics of Chatenay-Malabry, France, but our experiments with it were very disappointing. We experienced memory-constraint problems on a three-page, text-only file, and results with faxes that were sent through to our machine on a slight angle (as many faxes are) were worthless. To its credit, the program lets you guess on problem areas it can't analyze, but we still had very limited success.

Data communications are handled by SITcomm SE, a reduced version of Aladdin's telecommunications package (see MacWEEK, Jan. 10, 1994, Page 43). SITcomm offers all the basic features you need for communicating with BBSes. For other on-line services, Apple includes a new Express Modem Tool for Macintosh Communications Toolbox-aware applications, such as CompuServe Information Manager, America Online and eWorld. Apple also includes a new CCL (Command Control Language) for Apple Remote Access.

In addition to stand-alone applications, the Telecom kit includes PowerTalk gateways for routing your voice and fax messages into a PowerTalk mailbox. In fact, it offers the most compelling, practical example of PowerTalk we've seen. Ironically, though, it also highlights some of PowerTalk's many weaknesses, including the inability to sort on message types (such as phone, fax or e-mail) and store messages hierarchically. One problem with PowerTalk support is that the current version of MegaPhone has a bug that prevents it from moving messages into the PowerTalk mailbox if the machine is not connected to a network.

Documentation and support

The Apple software and hardware come with typical Apple manuals; they are good but lack details, although the Telecom 2.0 manual documents the modem command set supported by the GeoPort pod. The manuals for MegaPhone and SITcomm are on disk only, which is a bit frustrating, but they offer fairly complete information. Technical support for the products was good.

Conclusions

By making an effort to integrate the telephone into your regular computing experience, the GeoPort Telecom Adapter kit offers a heady view into the world of future communications. Plus, $125 for a digital answering machine/speakerphone and 14.4-Kbps fax-data modem is a good bargain, although you will need to budget in the essential upgrade to the full version of MegaPhone and a PlainTalk microphone, which Apple should have bundled.

The pieces of Apple's current telecommunications puzzle could use further integration and tighter ties with contact managers, and we would like to see more full-featured faxing and higher data rates. Still, even the current version will give you a taste of how powerful a combination the computer and telephone can be.

Apple can be reached at (408) 996-1010 or (800) 776-2333; fax (800) 776-2333; www.info.apple.com. □

LaserJet

From Page 33

HP has always done a very good job of making sure the documentation for its printers is easy to understand and clearly laid out, and the 5MP manuals are no exception. The Mac manual goes into excellent detail on installation and setup of both types of drivers and has a great section on troubleshooting and support issues.

Image quality

The 600-dpi Canon engines that we've seen over the years have consistently been top-notch, producing rich blacks, fine lines and overall high image quality. The 5MP's print quality benefits from the Canon legacy and HP's own Resolution Enhancement Technology. HP has also improved the print quality of gray-scale images over earlier HP LaserJets by providing a higher-line screen for output. As a result, gray-scale images printed with the 5MP have better detail than other HP printers we've tested. They weren't as fine as those printed on an Apple printer with the PhotoGrade image enhancement turned on, but the 5MP's output was very close.

Performance

We tested the base 5MP model, and even with only 3 Mbytes of RAM, the printer was able to process complex documents with ease and good speed. When printing text files with one or two fonts, the 5MP flew. Some files, such as large gray-scale images or Adobe PageMaker documents with lots of downloadable fonts and graphics, took slightly longer to print on the 5MP than on our 4-ppm 4MP, but the differences were minimal. When we added 8 Mbytes of RAM to the printer — an extremely simple task — the print speeds improved significantly, but we were impressed with the capabilities of the stock 3-Mbyte 5MP and the Memory Booster Technology.

Paper handling is also an important aspect of performance, and it's another area where the 5MP shines. The 5MP's standard paper path is much less tortuous than that of the 4MP. Unlike that printer, which produced an extreme curl to printed pages and would jam from time to time when printing labels, the 5MP's output has only a slight curl.

The 5MP is also one of the quietest laser printers we've ever tested. When it's not printing, it makes almost no sound at all, and the only indication it is on is the power light on the top of the printer.

Conclusions

The LaserJet 5MP is further proof that HP deserves its position as the kingpin of the monochrome laser printer world. The printer fits easily into a single- or cross-platform environment and can function as effectively for a single user as it can for a small- or mid-size workgroup. The infrared port is an interesting touch, and it might be of use to Mac users in the future, but even without having access to that capability, HP has produced yet another great printer at a great price.

Hewlett-Packard Co. of Palo Alto, Calif., can be reached at (208) 323-2551 or (800) 752-0900; fax (800) 933-1917. □

IN BRIEF

Fauve xRes 1.11

xRes meets expectations with image-editing upgrade

Overall value ♦♦♦

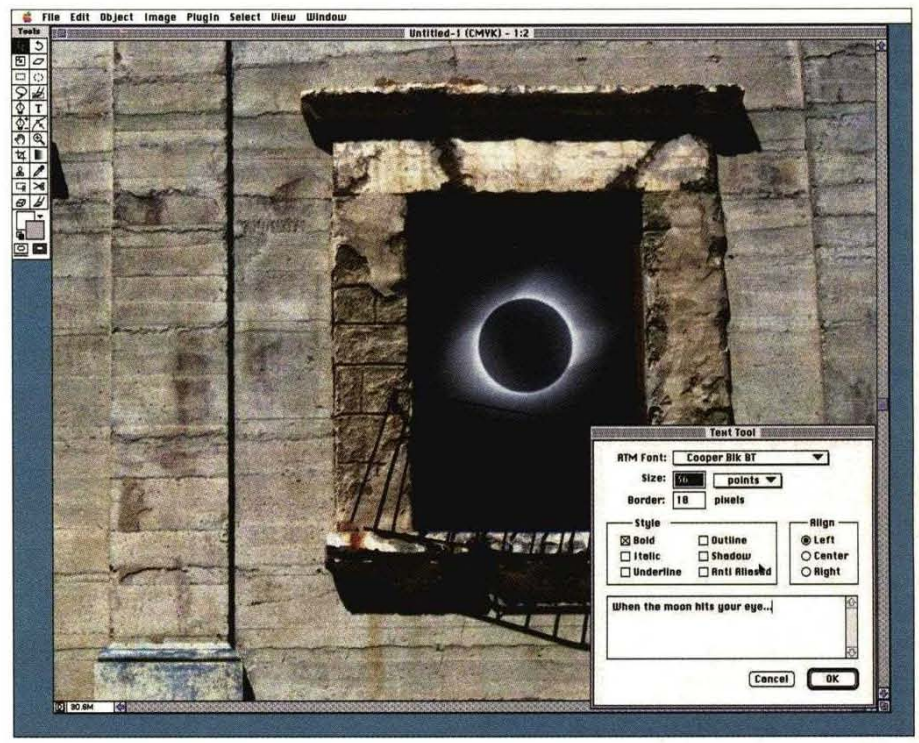
Fauve xRes 1.0 was an intriguing addition to the Macintosh image-editing product category when it shipped earlier this year. Positioned as a high-resolution option for users of Adobe Photoshop and Fractal Design Corp.'s Painter, xRes allows you to work on large files with relatively little RAM. However, when we reviewed Version 1.0, we lambasted Fauve Software Inc. for delivering the product before its time and characterized the application as "barely usable."

To its credit, the company has moved quickly to produce xRes 1.11, which addresses the most serious problems we found in the earlier version, including the interface, virtual memory and speed. The update is free to registered users and $799 for new users.

xRes requires at least System 7, a 68040 Mac and 20 Mbytes of RAM. For rendering, the application requires twice the amount of disk space of the largest element, although we recommend three times the disk space.

Interface lift

xRes' most egregious violations of the Mac user interface are gone. When you double-click on a file in the Finder, it now opens as expected. The application's problems with directory assistance features, such as Super Boomerang from Now Software Inc.'s Now Utilities, have also been fixed. In addition, Shift-key constraints work as expected on brushes, pens and the Resize tool, and clicking the scroll bar now pans an image by a full window's extent.



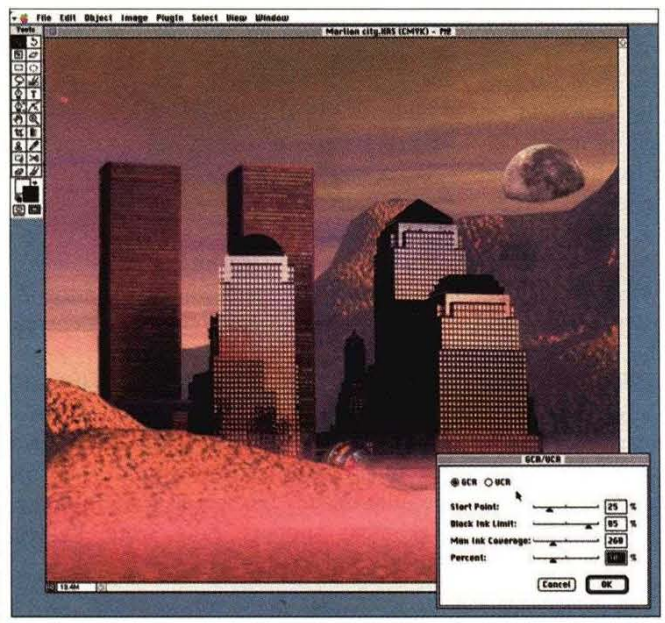
Fauve xRes 1.11's Text tool allows you to add text to an image. Although you cannot see the type as it's being added, once you click OK, the text appears as a separate object within the image and automatically includes its own alpha channel.

xRes still lacks a Print command, but the Text tool is now wired in and works seamlessly. Text in the application is a separate object that can be moved, resized and masked for an almost unlimited variety of type treatments. Text objects automatically create their own alpha channel, which is a nice touch.

Version 1.11 also adds support for third-party Photoshop plug-ins — including scanner Acquire modules — but not for Adobe's own plug-ins, which contain a proprietary piece of code that prevents their use in other programs.

Speeding along

We noticed some improvements in speed, particularly when using large brushes (although they're still far from real time); in rotates, resizes and skews; and in screen updates. This was in keeping with the company's claim of a speed increase of up to four times.



In xRes 1.11, GCR (gray component removal) and UCR (under-color removal) are separated from RGB-to-CMYK conversion, allowing much more control over the final separations than most desktop imaging solutions.

A new Interpolate mode greatly increases the speed when working with masking brushes, although it involves some compromises in quality (it can be turned off for touch-ups). Final rendering times can still be quite long, but they are considerably improved from Version 1.0 (see MacWEEK, Feb. 6, Page 30). A 120-Mbyte image that took xRes 1.0 almost three hours to render was handled by the new version in less than 40 minutes, validating Fauve's claim that rendering speed is four to 10 times faster than before.

Memory fixed

The application's problems with virtual memory have also been addressed, if not totally solved. xRes will now warn you that you don't have sufficient disk space available before you try the impossible, allowing you to save and exit gracefully.

It still doesn't fully reclaim scratch disk space during a session and permits you to designate only a single scratch disk — unlike Photoshop, which allows a primary and secondary scratch disk — so you occasionally have to quit and restart the program before you can do a final render. However, xRes no longer causes you to lose your work, so we rate the quitting and restarting problem as one of the minor annoyances that generally accompany new software.

New stuff

xRes 1.11 also adds support for Light Source Computer Images Inc.'s Colortron spectrophotometer (see MacWEEK, March 13, Page 25), letting you measure printed progressive color bars and plug them directly into the separation tables for improved color accuracy.

At the end of our review cycle we received an updated manual that cleared up much of our confusion with certain features. Adequate technical support is available on-line.

Construction ahead

While there are a few new additions to xRes 1.11, this version is mostly a bug fix, not a features upgrade, so there are still some rough edges.

For instance, none of the global color and tonal adjustment tools use video look-up table animation, so you must make an adjustment and then preview it. We would dearly like to see video look-up table

See xRes, next page

xRes

From previous page

animation as an option for those times when we want to adjust the entire image interactively.

Also, because much of xRes' interface resembles Photoshop's, the departures are all the more obvious. Experienced Photoshop users will almost certainly find themselves trying things they think should work but don't, such as certain shortcuts.

Conclusions

We're quite pleased to see that Fauve has fixed most of the more serious problems with xRes. The program is growing up fast — it's gone from toddler to gangling adolescent in a matter of months — and we look forward to seeing it mature further.

Still, we would welcome a Print command, and we'd like to see the virtual memory feature fully reclaim scratch disk space. xRes 1.11 continues to display the product's immaturity, but it's certainly usable. It remains a program for the adventurous; those who are undaunted by a difficult learning process (and those who can't afford scads of RAM) will find that, with sufficient patience, xRes 1.11 helps them achieve top-notch results.

Version 1.11 has a money-back guarantee. Photoshop 3.0 owners can upgrade to Version 1.11 for $199 through Aug. 31.

Fauve Software Inc. of San Francisco can be reached at (415) 543-7178 or (800) 898-2787; fax (415) 543-5148; fauvesoft@aol.com — *By Bruce Fraser*

INTEGRATE MACINTOSHES – with – Sun/SGI/HP

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Server to the Macs

InTouch 2.5

Prairie Group jump-starts PIM with new face, features

Overall value ♦♦♦♦

Prairie Group Inc. has breathed new life into InTouch, the free-form contact manager it acquired from Advanced Software Inc. last summer. Version 2.5 has a fresh look and a host of new features.

The $69.95 program, which can run on any Mac, still ships as a desk accessory, so its RAM partition cannot be changed; the default is 2 Mbytes of RAM.

A new look

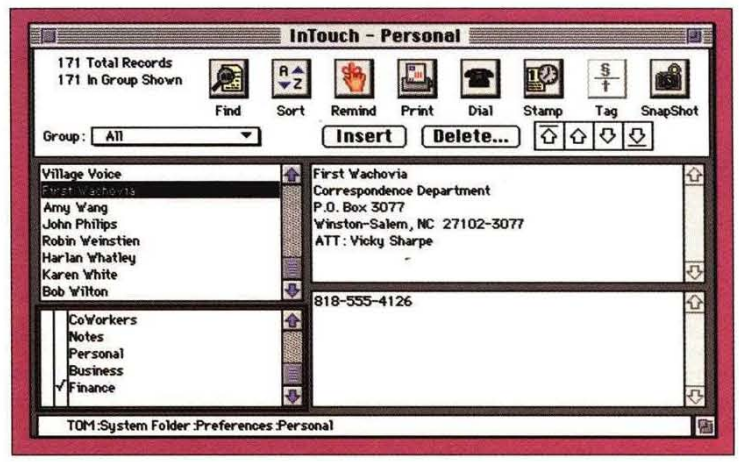
Version 2.5 preserves InTouch's ease of use while making welcome improvements to the interface. The program's main window now consists of four resizable panes — a Records list, Groups list, Address field and Note field — that can be navigated with the Tab key.

The Address field can contain as many lines as needed, while the Note field accommodates up to 14 pages of notes. Unfortunately, the Records list does not let you type the first few letters to quickly select a record; you must use the Find command instead.

The cryptic icons that adorned the bottom of InTouch 2.1's window have been labeled and moved to the top. Many of them pack extra functionality, which you can activate by holding down the Option key. For example, holding down Option while clicking the Find command presents a more advanced Group Search option that lets you assign found records.

Can't touch these control panels

One of InTouch's two control panels, Remind Me!, alerts you to events for given contacts. InTouch unexpectedly quit a number of times when we clicked the Remind button in the program's main window, but the problem disappeared after we opened the control panel.



The interface in Prairie Group's InTouch 2.5 now features four flexible panes in its main window, giving you faster access to groups. The program's icons have been labeled and moved to the top.

The other more interesting control panel, Snap, allows you to assign hot keys for moving snippets of data into InTouch. Unlike the Grabber extension in Common Knowledge Inc.'s Arrange, Snap can also extract data from an InTouch file, and it lets you launch InTouch or Prairie Group's DateView calendar program with a keystroke.

Although Snap forms a useful bridge between InTouch and other applications, support for Macintosh Drag and Drop would provide even slicker interchange capabilities.

Sorts and stuff

As a free-form database, InTouch imposes no data-entry structure, but it does provide for a few operations traditionally associated with fielded contact managers. For example, InTouch can sort files based on first or last name and gives you the opportunity to provide exclusions to sort rules. We'd like to see InTouch's record view become more dynamic, separating last and first names with commas. InTouch is also limited to opening one file at a time, although it tracks recent files on a hierarchical submenu.

Other impressive features include the capability to access files across a network without resorting to personal file sharing and optional integration with DateView. InTouch's dialing feature now lets you preview long-distance numbers and supports Sophisticated Circuits Inc.'s Desktop Dialer.

The bundled InTouch Import Utility makes it easy for users of other database programs to bring their contact information into InTouch.

The program's variety of printing options allows you to print fax cover sheets, labels, and envelopes with return addresses and bar codes. You can size documents as necessary to fit personal planners.

The 150-page InTouch manual is thorough and filled with tips and illustrations that explain complex dialogs. Prairie Group provides technical support on many popular on-line services and the Internet. Technical support calls were fielded quickly and accurately.

Conclusions

Featuring a long list of useful new features and a much improved interface, InTouch has been greatly enhanced in Version 2.5. For the program to fully bloom, Prairie Group should shed the product's desk-accessory file format and enhance its data-access capabilities. Still, it's a very good choice for users who don't need the sophisticated data management and complexity of a fielded contact manager. For longtime users, this upgrade is a no-brainer.

Prairie Group Inc. of West Des Moines, Iowa, can be reached at (515) 225-3720 or (800) 346-5392; fax (515) 225-2422; prariesft@aol.com. — *By Ross Scott Rubin*

APS DLT20

High-speed tape drive offers quick backups for large files

Overall value ♦♦♦♦

APS Technologies' new DLT20, one of the first digital linear tape drives for the Macintosh, is a product aimed at those who need a fast way to back up large files, such as those produced by pre-press, digital video and database applications. The $3,995 drive offers high-speed storage of up to 20 Gbytes of data on a single tape.

Digital linear tape, or DLT, has been used with Unix workstations for years but is just now trickling down to the Mac and Intel-based PC markets. It offers both higher capacity and faster transfer rates than 8mm and DAT — the most common tape backup solutions. DLT's main limitation is its high system requirements, operating efficiently only with a very fast CPU and bus. Until recently, Macs were simply not powerful enough to take advantage of the technology.

The DLT20, which comes bundled with Dantz Development Corp.'s Retrospect 2.1 archiving software, requires an AV or Power Mac running System 7.5 and SCSI Manager 4.3. You'll need 12 Mbytes of RAM, with at least 8 Mbytes allocated to Retrospect, and a fast hard disk. For best performance APS recommends a Fast SCSI-2 card, but this is not required.

Industrial strength

Housed in a solid, 9-by-5-by-13-inch black metal case, the DLT20 looks like a serious piece of hardware. Along with a copy of Retrospect, the package ships with two six-foot SCSI cables — one SCSI-to-SCSI and one SCSI-to-Mac — a heavy-duty power cord and the DLT driver for Retrospect.

See DLT20, next page

DLT20

From previous page

Storage and cleaning tapes, which come in a 5.25-inch case, are sold separately and are available directly from APS for $45.95 each. Storage tapes also come in a $129.95 three-pack.

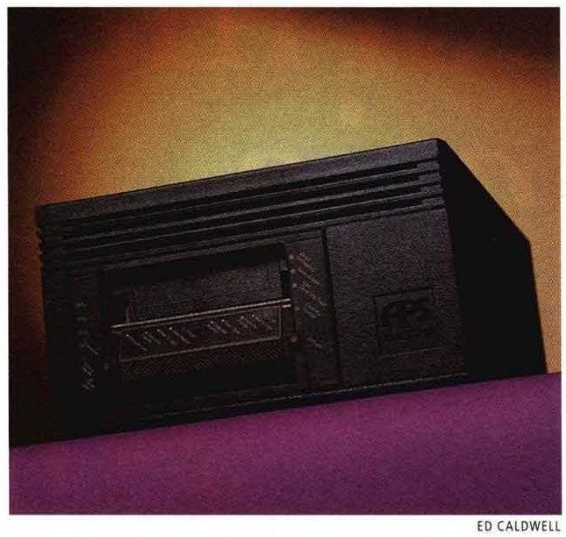
The drive's front panel is very informative, with LED indicators for tape-capacity and compression settings, and for monitoring if write protection is enabled, a tape is in use or the drive needs cleaning.

Setup and configuration

Setting up the DLT20 is straightforward. Plug in the power cord, attach the SCSI cable to the Mac and (if necessary) plug the SCSI-to-SCSI cable to the next device on the chain. APS recommends the DLT20 be the first device in the chain or — even better — the only device because additional devices slow backup speed. SCSI termination is handled by APS' proprietary Digital Active Termination, which can be turned on and off via a single DIP switch on the back of the unit.

One caveat when installing the DLT20 is that its fan is extremely loud — so loud that the words "vacuum cleaner" come to mind. APS recommends that you set up the drive in a server closet, not in an open environment, and the 6-foot cables help accommodate this.

The DLT20's front panel lets you switch between three tape capacities when backing up: 2.6, 6 and 10 Gbytes. For the latter, you can also turn on 2-to-1 compression to double tape capacity to 20 Gbytes. Although most users will want to leave the drive at the highest setting — 20 Gbytes compressed — those with slower or less-powerful systems may want to switch to one of the lower capacities to increase performance.



ED CALDWELL

The APS DLT20 digital linear tape drive offers high-speed, high-capacity backup for those who work with large files, such as those produced by pre-press, digital video and database applications. One tape can hold as much as 20 Gbytes of compressed data.

When used on a slower system, the drive may be less efficient because it will have to stop frequently and reposition the tape while it waits for data, which can waste tape space. Because of this, APS also recommends that you not use the DLT20 to back up remote volumes, since network throughput will be too slow to keep up with the drive.

Configuration takes a little experimenting, but we were able to significantly increase backup speeds by tweaking settings, so it's time well invested. The drive's manual clearly outlines compression schemes to use and avoid, and notes ways to optimize the drive for your system.

Performance

The DLT20's performance depends on a number of factors: CPU speed, disk speed and the types of files you're backing up. We tested the drive with three Macs: a Quadra 840AV, Power Mac 7100/66 and Power Mac 8100/110. Not surprisingly, the faster the Mac, the better the drive performance.

Although APS says that the DLT20 can reach speeds of 100 Mbytes per minute in an ideal configuration, we could not match this number, even on the Power Mac 8100/110 with a SCSI accelerator and a fast source volume.

Nevertheless, in real-world terms, the drive is incredibly fast. On the 840AV, we were consistently able to back up about 58 Mbytes per minute. On the 7100/66, we hit about 61 Mbytes per minute. On a Power Mac 8100/110, we hit 77 Mbytes per minute using the native SCSI bus and 85 Mbytes per minute using FWB Inc.'s SCSI JackHammer accelerator card and SledgeHammer disk array.

In terms of file size, the drive hit maximum performance when backing up large graphics images, such as Adobe Photoshop files of 30 Mbytes or more. When backing up smaller files, performance suffered, although it was still quite good.

Conclusions

The APS DLT20 tape drive ushers in a new era of high-speed backup, but it's a high-end machine for high-end needs only.

If you have a fast Mac with a fast drive and you need to back up a lot of large files with minimal downtime, the DLT is an industrial-level device that will get the job done. Although we couldn't quite match the speed that APS says the drive is capable of, our tests proved that the drive is remarkably fast. For those with even greater needs, APS' DLT40, which will offer 20 Gbytes of native storage and 40 Gbytes compressed storage, is due to be released at the end of this month.

APS Technologies of Kansas City, Mo., can be reached at (816) 483-6100 or (800) 235-2753; fax (816) 483-3077. — *By T. Kelley Boylan*

Mac Users: Go forth, and conquer.

I.S. Managers: Go forth, and relax.

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At last! Affordable TCP/IP applications for file access, networking, and printing for the Mac.

You know the data is out there. On a mainframe back at corporate. Or a UNIX server. Or maybe on that guy's PC down the hall.

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At Wollongong, we've been liberating legacy data for DOS and Windows users for over a decade. We've also done a lot of work on the other side of the house and developed some great solutions for Mac users, too.

PathWay gives you instant access to all the resources of your TCP/IP network. Using FTP, you can get to and share data that resides on just about any system—anywhere around the world. And since PathWay has an intuitive graphical user interface, you can transfer files from remote hosts and retrieve files from servers—with all the point-and-click, drag-and-drop simplicity you love about your Mac.

PathWay also offers a host of other capabilities. For I.S. managers, it's easy to install and configure—and our script compiler even lets you automate keystrokes and log-on sequences. For Mac users, full terminal emulation capabilities let you run legacy apps at your desk. You can remap your keyboard to match your host system. And Print Redirector makes it a breeze to print to any printer on the TCP/IP network. (Just drag your document onto the virtual printer icon.)

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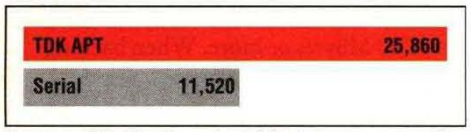

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HURRY UP AND WAIT

MacWEEK subscribers who use remote access reported insufficient line speed as their biggest problem.

MOBILE COMPUTING

ARA 2.0 can offer cost-effective links to your LAN

By Larry Stevens

Remote Mac users need to have the same rights and privileges as those who are hard-wired to the network. Apple Remote Access can make mobile users equal partners with in-house users and reduce the cost over one-person/one-modem setups.

According to a recent MacWEEK subscriber survey, among those subscribers in sites where employees need remote access, more than two-thirds are using Apple Remote Access, or ARA; a majority of those are using Version 2.0 (see MacWEEK, March 20, Page 10).

Apple Remote Access is known more for its interface than its performance.

"[ARA] really cuts down on support costs," said Mark H. Anbinder, director of technical services at Ithaca, N.Y.-based Baka Industries Inc., a network consultant company. Anbinder often installs OneWorld Combos, ARA servers from Mountain View, Calif.-based Global Village Communication Inc., at client sites. When customers have a problem, he dials into their networks and views critical files through ARA 2.0. The latest release of ARA includes a security feature that optimizes the technology for networks and is separated into client and server software segments.

If you're an individual user who wants access to a single desktop, as with ARA 1.0, you can use Apple Remote Access Personal Server, which sells for $249. Because this is software-only, it's the least expensive and easiest solution to implement.

But for sites with more than one Mac, ARA-compatible servers offer advantages. First, a server eliminates the need to buy a modem and dedicate a phone line for each user. A server allows remote callers to access the network even if they forget to leave their Macs running at the office. And servers contain their own processor and RAM. So regardless of the speed of the desktop Mac, ARA's performance is not affected, and incoming calls don't slow down internal Macs.

"We want our customers to have access to the network," said Greg Palen, director of client development at color separation house Gazlay Marketing Group Inc. in Kansas City, Kan. "But we don't want that access to affect our Macs." Gazlay Marketing uses the $1,695 APT Dial Server from Ijamsville, Md.-based APT Communications Inc., so his customers can access files on the company's LAN. Gazlay Marketing has 20 internal Macs connected to its server and 20 customers who regularly dial into it.

Apple's solution

If you're shopping for an ARA server, consider Apple's hardware solution: Apple Remote Access MultiPort Server. "If money is an issue and a company has an old NuBus Mac they want to get some use out of, ARA MultiPort is economical," said Michael Koidahl, president of Westwind Computing Inc., a network engineering company in Seattle. The 12-inch NuBus card sells for $1,159 and includes four serial ports for modems. Since the MultiPort Server software can manage up to four MultiPort Servers in a single Mac, you can, in theory, have 16 modem connections on a single Mac.

Koidahl warns, however, that unless you have at least a 68040 Mac to dedicate to it, don't expect it to handle a lot of traffic. Also, the MultiPort Server doesn't have dial-out capabilities, so it cannot be used to connect to on-line services.

The next step up is Global Village Communication's OneWorld Combo, a two-modem server that includes dial-out data and fax capabilities and sells for $2,099 ($1,499 without modems). It also has special administration software, such as account passports, which allow you to set privileges for entire classes of users at one time.

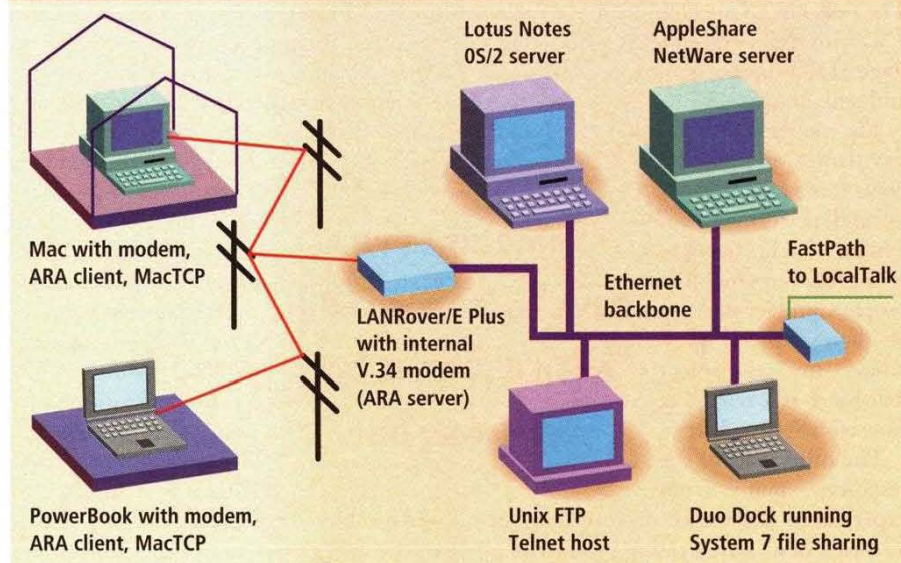
Koidahl said he recommends OneWorld Combo for his clients who run small businesses. It comes outfitted with the company's internal PowerPort/Mercury modems, so you don't have to select a modem or create initialization strings as you would with servers to which you add your own modem.

The four- or eight-port LanRover/E Plus from Shiva Corp. of Burlington, Mass., also includes internal modems for $6,599; the LanRover/E, which starts at $3,099, does not include modems. Other ARA servers include AccessBuilder 2000 from 3Com Corp. of Santa Clara, Calif.; ChartAccess from J&L Information Systems of Chatsworth, Calif.; GatorLink from Cayman Systems Inc. of Woburn, Mass.; NetConnect from Asanté Technologies Inc. of San Jose, Calif.; ConnectPlusLT from Emulex Corp. of Costa Mesa, Calif.; Remote LAN Node from Digital Communications Associates of Alpharetta, Ga.; LANExpress 2000 from Microcom Inc. of Norwood, Mass.; the Digital NetRider series from Digital Equipment Corp. of Maynard, Mass.; 2500 Routers from Cisco Systems Inc. of San Jose, Calif.; and the remote access servers from IBM Corp. of Armonk, N.Y.

The $3,295 eight-port DaynaLINK Mobile Access Server from Dayna Communications Inc. of Salt Lake City straddles the line between internal and external modems by using PCMCIA modems. These come on cards that are inserted into the server just as you would insert a floppy

See Solutions, next page

Remote access with an ARA server



Shiva's LANRover/E Plus sits on the Ethernet backbone at the home office. Using ARA, mobile users or telecommuters can dial in and access a Lotus Notes or NetWare server on the office network.

NEVIN BERGER

Improving ARA's interface

Apple made ARA — based on Apple File Sharing — easy to use, but no technology can ever be too easy. If your end users don't want to learn to use ARA, there's an alternative: ARACommander from Trilobyte Software Inc. of Middletown, Ohio.

ARACommander, which sells for $35, is a control panel that requires ARA, or Apple Remote Access, to be installed first. It adds some remote-access features but, more importantly, improves on ARA's user interface.

"It shields users from any complexity of ARA," said Michael Max, IS analyst at The Casey Family Program, a Seattle-based human service organization that has 50 ARA users.

Max said when ARACommander is configured by his department, users don't have to worry about such things as dialing strings or which port they're dialing out from. "They just double-click on an icon, enter their password and they're connected," he said.

ARACommander allows connections to be scheduled at any time and be completely unattended. For example, it can automatically access e-mail several times a day. ARACommander can also improve security. It allows administrators to hide the phone number, account name and password from users. It can also age passwords, which lets administrators grant temporary access to the network. Finally, the product supports scripting languages, such as AppleScript, which let you create automatic remote-access functions. — By Larry Stevens

MACINTOUCH RIC FORD

Readers respond on 7.5.1 and Neil fakes faster FPU

The response to my column about System 7.5.1's instability (see MacWEEK, May 8, Page 31) has been interesting, challenging and schizophrenic.

The comparison to Windows 95 ignited a few flames, and about half the correspondents touted the reliability and performance of System 7.5.1, blaming poor procedures for other people's problems. Most of these readers questioned my assessment that there is a reliability issue with System 7.5.1.

Sometimes you have to have an FPU, even if it must be a very slow one.

The other half of the responses, many from experienced Macintosh professionals, described a slew of frustrating problems and clamored for more Mac reliability.

After reading scores of messages, I believe System 7.5.1 is not the sole problem, although it certainly has bugs, incompatibilities and installation problems. The other factor is the rapid rate of change in the third-party software environment, driven by Apple's own hardware and software changes.

Microsoft software has been unstable, and readers are blaming everything from Microsoft Office extensions to FoxPro for crashes and freezes. Recent updates should help.

Several readers reported a wave of QuarkXPress crashes on Power Macs and an accompanying storm of messages on America Online with no solutions.

I had experienced crashes when running Adobe Type Manager 3.8.1, but new versions of ATM and SuperATM should fix some problems. These ATM updates cover both Power Macs and QuickDraw GX and supersede a series of other ATM releases with various compatibility issues. ATM 3.8.2 is the current version, and patches are available on-line from Adobe Systems Inc. to update older versions.

The $99 SuperATM 3.8 incorporates ATM 3.8.2 as well as an updated version of the ATM Font Database file that is compatible with System 7.5. Upgrades are available for $39. Phone (415) 961-4400 or (800) 833-6687.

Adobe's free Acrobat Reader 2.0.1 is a new version, and another set of updaters brings Adobe Type Reunion to Version 1.2.

Silicon simulation

Moving on to a quieter topic, Apple provides wonderful emulation technology in the Power Macintosh, but one little piece is missing: FPU (floating-point unit) emulation. Sure, a lot of 680x0 applications call

GORDON STUDER

SANE (Standard Apple Numeric Environment) routines, which are emulated, and serious number-crunchers need native PowerPC applications, but there are a few other programs that fall through the cracks. Autodesk Inc.'s AutoCAD 12 and floating-point plug-ins for graphics applications are prime examples. Fortunately, John Neil & Associates has been there to fill the niche.

Neil created the shareware control panel SoftwareFPU back in 1993. It let 680x0 Macs without coprocessors, such as the IIsi and Centris 610, run FPU instructions that otherwise failed on those machines, although emulation was terribly slow.

SoftwareFPU even ran on Power Macs when they arrived, but the emulator itself ran in emulation mode, and the dual performance penalty limited speed even on the fast PowerPC processor.

With SoftwareFPU 3.0, Neil offered to registered users a native version of the control panel that doubled its speed. Now the company has introduced a $75 commercial version, PowerFPU, that is even faster. (Registered owners of the 680x0 and PowerPC shareware versions can upgrade for $60 and $50, respectively.)

Time trials

Looking for a better understanding of relative performance, I ran a series of tests using Math Clock 1.01, a floating-point benchmark utility written by Dr. Jeffrey B. Kane. It measures the performance of FPU calls in two categories, monodic (sine and tangent) and dyadic (multiplication and division).

The results show great improvement with PowerFPU, but FPU emulation is still practical only for occasional, special uses.

A Power Mac 7100/66 with a cache card running PowerFPU was about six times slower than a Mac IIfx in both test categories. (Faster Power Macs will do better.)

Running the non-native SoftwareFPU, the same Power Mac was 17 times slower than the IIfx in monodic operations and 85 times slower in dyadic tests.

SoftwareFPU on a PowerBook 165 (which has no FPU) ran Math Clock about 150 times slower than on the Mac IIfx.

Phone John Neil at (415) 905-3000; fax (415) 905-3001; john@jna.com. □

Comments on MacInTouch are welcome at 7 Parmenter Ave., Maynard, Mass. 01754. Phone (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.

SOLUTIONS

From previous page

disk in your Mac. According to Dayna, the server automatically configures itself to work with most standard PCMCIA modems. It can also be custom-configured to handle nonstandard modems.

Faster than ARA

ARA's claim to fame is its Mac interface, not its speed. While faster modems and server processors have improved ARA's performance, users still have to get used to a system that is much slower than it is when it's hard-wired to the network. When users are accessing large files, the problem could be a serious disruption.

One way to eliminate the speed glitch is to use a remote-access product such as Timbuktu Pro from Farallon Computing Inc. of Alameda, Calif., on top of ARA. Timbuktu Pro, which now supports TCP/IP as well as ARA, sells for $199 and lets you control and view another user's Mac from your own Mac. Using its Observe function you can watch the activity on the host screen, but you cannot perform any actions. With Control access, the highest level of access, you see the host Mac on your remote screen and control the host just as though you were sitting at it.

The primary reason it is faster than ARA is that with Timbuktu all the processing work is done on the host. The only thing that has to be transmitted over the phone line is the screen image. If you want to use a database application, for example, you don't have to download that application or the entire file to your remote Mac.

Another approach to the performance problem is to get an ISDN (Integrated Services Digital Network) telephone line and modem. Although ISDN services are still not available in many areas of the United States, telephone companies have been busy expanding them, to the extent that data can be transmitted at speeds as high as 64 Kbps. Device makers are beginning to follow suit by bringing out ISDN modems and routers.

There are drawbacks, however. First, ISDN has to be available at the remote site as well as the home site. If you do a lot of traveling to areas where ISDN is not available to you, don't bother signing up. Also, it's important to remember that telephone line speeds are only one part of the picture. Since ARA performs data compression on the Mac, the processor speed also has to be taken into account. □

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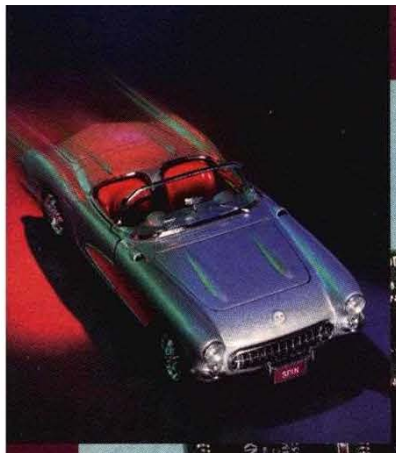

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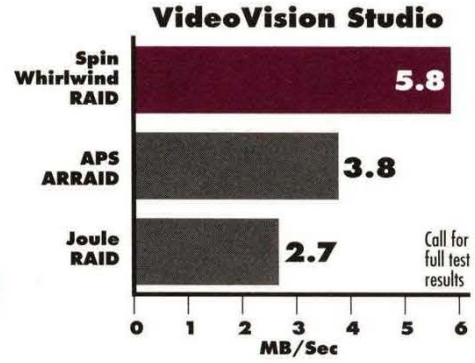

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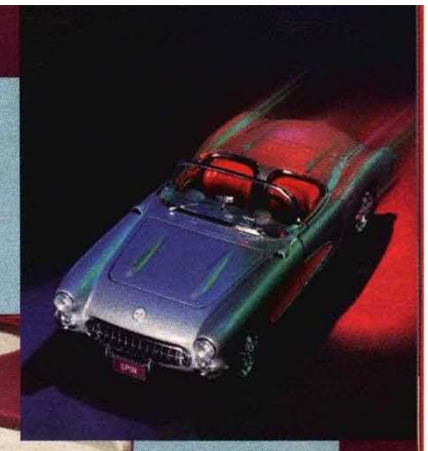

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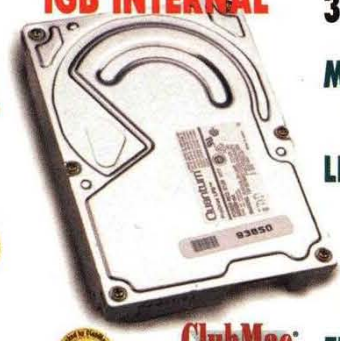

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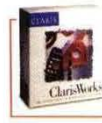

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All SyQuest drives include SCSI Director formatting software, ONE FREE Formatted Cartridge, necessary cables for "plug-and-play" and documentation. All SyQuest drives include a 30-Day Money Back Guarantee and TWO Year Warranty. All SyQuest cartridges include a FIVE Year Warranty (warranty after the first year is handled by SyQuest).

ClubMac 3.5" 270MB Removable

- Fast 13.5ms average seek time
- 3,600 RPM rotational speed
- Data transfer rate up to 4MB/sec (sync)
- SCSI-2 interface
- Backward compatible with 105MB cartridges
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$479
C109 1004

Backed by ClubMac's 30 DAY Money Back Guarantee

FREE CARTRIDGE

C109 1004	**3.5" ClubMac 270MB** *includes FREE Formatted 270MB Cartridge*	External	$479

ClubMac 3.5" 105MB Removable

- Fast 14.5ms average seek time
- 3,600 RPM rotational speed
- SCSI-2 interface
- Data transfer rate up to 4MB/sec (sync)
- 100,000 hours MTBF

NOW SHIPPING WITH ACTIVE TERMINATION

$259
C109 1005

Backed by ClubMac's 30 DAY Money Back Guarantee

FREE CARTRIDGE

C109 1005	**3.5" ClubMac 105MB** *includes FREE Formatted 105MB Cartridge*	External	$259

SyQuest 5 YEAR Warranty* ON CARTRIDGES

GENUINE SYQUEST CARTRIDGES

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	$43ea	$42ea	$41ea
S198 1011	88MB	$48ea	$47ea	$46ea
S198 1012	200MB	$76ea	$74ea	$72ea
S198 1013	105MB	$55ea	$53ea	$51ea
S198 1014	270MB	$62ea	$61ea	$60ea

* Warranty after first year, handled by SyQuest.

NEC

NEC MultiSpin 2V

$199
N024 1008

2X Speed

- Power Tray
- 320ms access time
- 300KB/sec transfer rate
- Two Year Limited Warranty

NEC MultiSpin 6Xe $559

NEW PRODUCT

N024 1062

6X Speed

- Blazing 900 KB/sec
- 150ms access time
- Removable disc cartridge included
- Two Year Limited Warranty

N024 1062	**NEC MultiSpin 6Xe**	$559
N024 1011	**NEC MultiSpin 3Xp**	$379
N024 1008	**NEC MultiSpin 2V Mac**	$199

ClubMac 4X CD-ROM

- 600KB/sec data transfer rate
- 190ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

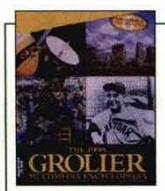
$249
C109 9546

PhotoCD™ CD AutoCache Backed by ClubMac's 30 DAY Money Back Guarantee

ClubMac 2X CD-ROM

- 300KB/sec data transfer rate
- 320ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$159
C109 9543



NEW PRODUCT

- Grolier 1995 Multimedia Encyclopedia
- U.S. Atlas & World Atlas
- San Diego Zoo Animals
- Wyatt Earp
- QuickShot speakers & Koss Headphones (5 Titles/4 CDs)

CLUBMAC CD-ROM BUNDLE $100* C109 1015

*with any CD-ROM Drive purchase

Seagate

Unformatted Capacity	Model	Description	Part No.	Internal	Part No.	External
3.5" Half Height & Low Profile (LP)						
2.4GB	32430N	Hawk 2 LP	C109 2211	$959	C109 2112	$1019
4.3GB	15230N	Hawk 4	C109 2212	$1339	C109 2113	$1399
2.5GB	32550N	Barracuda 2 LP	C109 2203	$1089	C109 2109	$1149
4.3GB	15150N	Barracuda 4	C109 2207	$1559	C109 2106	$1619
5.25" Full Height						
9.1GB	410800N	Elite-9			C109 2110	$3099

4.3GB BARRACUDA 4

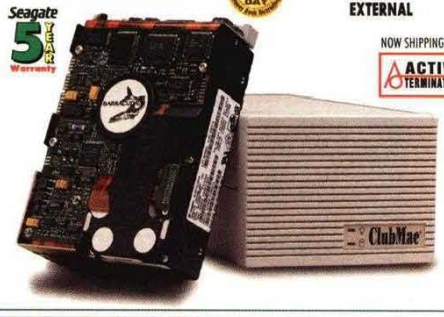
8.5ms average seek time
7,200 RPM rotational speed

Backed by ClubMac's 30 DAY Money Back Guarantee

$1619 EXTERNAL

Seagate 5 YEAR Warranty

NOW SHIPPING WITH ACTIVE TERMINATION

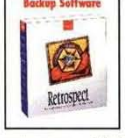


ClubMac Tape Backup Drives

The ClubMac 2.0GB DAT drive features 20sec average data access time, up to 266KB/sec data transfer rate, SCSI-1/SCSI-2 interface and 60,000 hrs MTBF.

NOW SHIPPING WITH ACTIVE TERMINATION

BUNDLED WITH Retrospect v2.1 Backup Software



Backed by ClubMac's 30 DAY Money Back Guarantee

$729

C109 5011	**ClubMac 2.0GB DAT**	$729
C109 5010	**ClubMac 4-8GB DAT/DDS-2**	$949

ClubMac DAT drives includes a 30-Day Money Back Guarantee, TWO Year Warranty, RetroSpect v2.1 Backup Software, ONE 90m DAT tape (ClubMac 4-8GB DAT drive includes ONE 120m DAT tape), 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

ClubMac Optical Drives

ClubMac 5.25" OLYMPUS 1.3GB

- 29ms ave. seek time
- 3,500 RPM rotational speed

Backed by ClubMac's 30 DAY Money Back Guarantee

$1499
C109 5022

NOW SHIPPING WITH ACTIVE TERMINATION

CLUBMAC 3.5" OLYMPUS 230MB

- 28ms ave. seek time
- 4,200 RPM rotational speed

MacUser ★★★★ February 1995

$579
C109 9352

Backed by ClubMac's 30 DAY Money Back Guarantee

ClubMac drives are preformatted and thoroughly tested. ClubMac Optical drives include a 30 Day Money Back Guarantee, ONE Year Warranty, a FREE formatted optical disk, SCSI Director Formatting Software, pre-loaded Apple system software, 25/50 pin SCSI cable and power cord for external drives, user's guide, and Switchable Active Termination.

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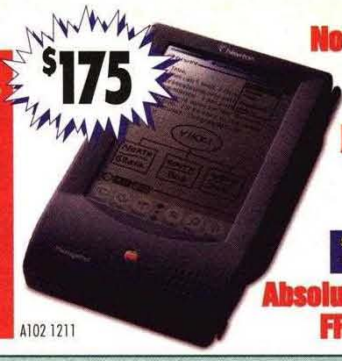
- Features a fast 20 MHz Processor, improved with ROM and 640K RAM



A102 1211

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Absolutely FREE!

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	15" MultiSync XE15 (N026 1006) / **XP15** (N026 1005)	$549 / 599
	17" MultiSync XV17 (N026 1022) / **XP17** (N026 1009)	$759 / 1229
	21" MultiSync XE21 (N026 1010) / **XP21** (N026 1011)	$1989 / 2439

IntelliColor Display/20e

The Radius IntelliColor Display/20e is part of the next generation in professional two-page color displays. It delivers unrivaled command of your desktop, from on-the-fly resolution switching to state-of-the-art color temperature control. Combined with Radius' IntelliColor software, it allows you to emulate 3 lighting conditions and user-adjustable color temperature, so you get more accurate color representation.

$1979

MONITORS

R016 1013	**PressView 21T Display System** (PV2102) 21" Trinitron, 640 x 480 to 1600 x 1200	$3129
R016 1016	**SuperMatch 21•T XL Trinitron** (STD2102) 21" Trinitron, 1600 x 1200	$2139
R016 1009	**IntelliColor Display/20e** (0461) 20" Trinitron, 640 x 480 to 1600 x 1200	$1979
R016 1007	**PrecisionColor Display/17** (0460) 17" Trinitron, 640 x 480 to 1600 x 1200	$989
R016 1015	**SuperMatch 17•T PRO** (STD1702) 17" Trinitron, 1360 x 1024	$829

VideoVision Studio 2.0

With JPEG hardware compression and decompression for full-screen, full-motion recording and playback from a hard disk, VideoVision Studio combines the power and flexibility of the Macintosh with the ease and transportability of video tape.

$3699

PowerMac 8100 Compatible !!

MULTIMEDIA SOLUTIONS

R013 1018	**VideoVision Studio 2.0** (0500) NEW and IMPROVED, now compatible with the PowerMac 8100	$3699
R013 1020	**VideoVision Studio 2.0 Upgrade** (0505) JPEG daughtercard	$1759
R013 1026	**Spigot Power AV** (DV1630) captures full-screen 24-bit color video up to 30 frames/60 fields per sec	$759

radius

Thunder Series GRAPHIC ACCELERATORS

Super Resolution at Earth-Shaking Speed.

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Thunder Series Cards
Blow the doors off Power Mac

Three Thunder IV GX cards extend the 24-bit resolution of the PowerMac's built-in-video. Accelerated 24-bit color, built-in Photoshop acceleration, CMYK acceleration, hot-key resolution switching, pan and zoom, color composer and 10-bit DAC add up to make these cards the number one choice for image processing, compositing and illustration.

FREE* ColorComposer software — Adobe charged

GRAPHIC CARDS

R013 1059	**Thunder IV GX•1600** (0513) 24-bit support to 1600 x 1200	$2799
R013 1060	**Thunder IV GX•1360** (0446) 24-bit support to 1360 x 1024	$2289
R013 1061	**Thunder IV GX•1152** (0485) 24-bit support 1152 x 870	$1899
R013 1062	**Thunder/24 GT** (0491) 24-bit support to 1152 x 870, PhotoEngine optional	$1329
R013 1010	**PrecisionColor Pro 24XK** (0430) 24-bit color, 1024 x 768, 16" and larger displays	$749
R013 1012	**PrecisionColor Pro 24XP** (0431) 24-bit color, 832 x 624, 17" and smaller displays	$279

*Modify your image display without affecting the image file. For a limited time, FREE ColorComposer software is included with each Thunder Series card. Adjust what you see on your monitor to more closely match the output of your printer.

Printers

NEC

BEST BUY

NEC Silentwriter Model 640

- 6ppm Print Speed
- 300 dpi print resolution
- 35 True Type fonts
- 3MB RAM standard
- AppleTalk Interface
- Adobe PostScript Level 2 interpreter
- Limited TWO-Year Overnight Replacement Warranty (N027 1001)

$699

EPSON Stylus COLOR Inkjet Printer E047 1012

Now you can print in vivid color with clarity never before possible in a personal color printer. At 360 dpi resolution blacks are blacker and at 720/360 dpi the color output is the sharpest available.

- Incredible 720 dpi color printing, optimized with special coated paper
- 360 dpi black print resolution
- Prints up to 16 million colors
- Serial interface
- Includes Mac driver software and a TWO Year Warranty

$529

Scanners

HP ScanJet 3c

The HP ScanJet 3c Color/Grayscale flatbed scanner for just $959. It offers 600 dpi, 30-bit color internal, and 10 bit grayscale internal capabilities for superior image quality. And it provides an easy way to add text and color images to documents.

$959

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H045 1006	**HP ScanJet 3c Color/Grayscale Scanner**	$959
H045 1004	**HP ScanJet 3p Grayscale Scanner**	$479
H040 1007	**HP ScanJet 3c Automatic Document Feeder** (up to 50 pages)	$479
H040 1031	**HP ScanJet 3p Automatic Document Feeder** (up to 50 pages)	$199

EPSON Epson ES-1200 Pro Mac Scanning System

HIGH DETAIL 4800 DPI, 30-BIT COLOR SCANNING MADE AFFORDABLE.

- 600 x 1200 dpi scanning resolution (up to 4800 dpi via interpolation)
- Epson's TruePass scanning technology
- Scans over ONE BILLION colors
- 8.5" x 11.67" scanning area
- Built-in image processing features
- Increased image quality with 30-bit color scanning

2 YEAR WARRANTY

MACWORLD EDITORS' CHOICE 1994 WINNER

$1269

E045 1003	**Epson ES-1200C Pro-MAC**	$1269
E045 1004	**Transparency Unit**	$749
E045 1008	**Automatic Document Feeder**	$465

$359

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MACWORLD MW

Modems

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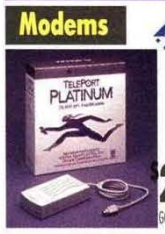
Global Village TelePort Platinum

The Teleport Platinum fax/modem makes it easy to achieve the highest possible performance for both data adn fax communication. You'll save time and money when your use it to send and receive faxes, access your office network from home, transfer files, and connect to on-line services



$229 G050 1016

G050 1016	**Global Village TelePort Platinum**	$229
G050 1006	**Global Village TelePort Gold II**	$139
G050 1017	**Global Village PowerPort Platinum PB 1XX**	$325
G050 1003	**Global Village PowerPort Mercury PB 1XX**	$325

SupraFAXModem 28.8 MC v.34

$225

S140 1006	**Supra Express 14.4 Plus**	$99
S140 1007	**SupraFAXModem 28.8 MC V. 34**	$225
S140 1008	**SupraFAXModem 28.8 PB** V.Fast Class for PowerBooks	$299

Supra Modems include a FIVE Year Warranty.

Graphic Cards — The Inexpensive Alternative for High-End Color Displays

EA RESEARCH EAsycolor 24

The EAsycolor 24 graphics accelerator offers an unsurpassed combination of performance and price to creative professionals. In addition to 24-bit resolution up to 1600 x 1200, the EAsycolor 24 also offers Adobe Photoshop, CMYK-RGB, and QuickDraw Acceleration. Ideal for PowerMac owners, the EAsycolor 24 features state of the art RISC technology, up to 8MB VRAM, a 30 day money-back guarantee and a lifetime warranty at a very competitive price.

$1299

E103 1001	**EAsycolor 24 1152 Graphics Card** (EC1152)	$1299
E103 1002	**EAsycolor 24 1360 Graphics Card** (EC1360)	$1699
E103 1003	**EAsycolor 24 1600 Graphics Card** (EC1600)	$2299

RASTEROPS CORPORATION PaintBoard Prism GT bundled with Painter 3.0

Prism delivers top performance – real-world performance – for the way that people really work. Prism provides a balance of price, performance and functionality that are unmatched

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- High refresh rates for flicker-free images
- Hardware-based 2X, 4X and 8X zoom and pan

R053 1029	**PaintBoard Prism GT bundled with Painter 3.0**	$959
R053 1028	**PaintBoard Prism**	$659

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IN STOCK!

100 MHz Turbo 601

100MHz

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DAYSTAR DIGITAL

Compatible with Mac IIci, IIsi, IIvx, and Performa 600

The Turbo 601 provides the best of both worlds. The Turbo 601 allows you to run your current software up to twice as fast, and it lets your run powerPC accellerated applications at full PowerPC speed - from 7 to 11 times faster!

DayStar 100 MHz Turbo 601 (D040 1048), Ilsi (D040 1050), IIvx/vi/Performa 600 (D040 1052)	$1689
DayStar 100 MHz PowerPro 601 (D040 1043) Compatible with Quadra 900/950, 700 and other with Quadra style PDS	$1689
DayStar 66 MHz Turbo 601 Compatible with Mac IIci (D040 1039), Ilsi (D040 1049), IIvx/vi/Performa 600 (D040 1051)	$989
DayStar 66 MHz PowerCard 601 (D040 1040)	$635
DayStar Turbo '040 (D040 1018)	$769

Networking

Mac Con LC-10T III

(A120 1026)

Mac Con LC-10T III is a great low cost 10BaseT solution for LCs, Quadra 605s, 630s and many Performa models

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SPECIAL BUY! Limited Quantities Available

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A120 1033	Micro AsantéPrint, Thk/Thn/10BT (AP3)	$309
A120 1010	10BaseT FriendlyNet Media Adapter (FN10TA)	$49
A120 1025	Mac II/Perf 600, NuBus, Thk/Thn (MCiNB-TN)	$95
A120 1023	Mac II/Perf 600, NuBus, Thk/10BT (MCiNB-10T)	$109
A120 1022	Mac LC/Q6xx/Clr Classic, Thn, FPU (MCiLC-TN)	$109
A120 1037	Mac LC/Q6xx/Clr Classic, 10BT, FPU (MCiLC-10T)	$89
A120 1026	10BaseT, FPU socket (MciLC-10TIII)	$59
A120 1034	NetExtender - AAUI Hub with 4 RJ45 Ports, attached AAUI cable (NETEXT-FN-AAUI)	$75
A120 1032	Micro AsantéPrint, 10BT (AP10T)	$285

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. MONEY BACK GUARANTEE: All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. RETURNS: Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

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All Drives are Preformatted, Tested and Packaged with SCSI Manager 4.3 Compatible Drivers. External Drives Include Choice Of 25-50 or 50-50 Pin Cable.

Capacity	Model No.	Mechanism	Size	Seek	RPM	Warranty	Internal	PHASER-I
365 mb	DT-365LT	Quantum	3.5"	11 ms	4500	2 yrs	$195	$270
540 mb	DT-540LT	Quantum	3.5"	11ms	4500	2 yrs	$235	$310
730 mb	DT-730LT	Quantum	3.5"	11 ms	4500	2 yrs	$275	$350
1.0 gb	DT-1080AL	Quantum	3.5"	9.5 ms	7200	5 yrs	$590	$665
1.05 gb	DT-31230	Seagate	3.5"	9.0 ms	5400	5 yrs	$545	$620
2.0 gb	DT-3221	Micropolis	3.5"	8.5 ms	7200	5 yrs	$950	$1,025
2.0 gb	DT-32150	Quantum	3.5"	8.0 ms	7200	5 yrs	$990	$1,065
2.0 gb	DT-2490	HP	3.5"	9.0 ms	6400	5 yrs	$1,100	$1,185
2.1 gb	DT-32550	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,050	$1,125
2.1 gb	DT-32550W	Seagate Barracuda Wide	3.5"	8.0 ms	7200	5 yrs	$1,199	$1,299
4.3 gb	DT-3243	Micropolis	3.5"	8.5 ms	7200	5 yrs	$1,395	$1,475
4.3 gb	DT-15150	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,499	$1,579
4.3 gb	DT-15150W	Seagate Barracuda Wide	3.5"	8.0 ms	7200	5 yrs	$1,599	$1,799
4.3 gb	DT-34300	Quantum	3.5"	8.0 ms	7200	5 yrs	$990	$1,065
9.0 gb	DT-1991	Micropolis	5.25"	12 ms	5400	5 yrs	$2,275	$2,375
9.0 gb	DT-410800	Seagate Elite 9	5.25"	11 ms	5400	5 yrs	$3,099	$3,199

Audio/Video Tuned Hard Drives

Capacity	Model No.	Mechanism	Size	Seek	RPM	Warranty	Internal	PHAZER-I
1.05 gb	DT-31230AV	Seagate	3.5"	9 ms	5400	5 yrs	$599	$679
2.0 gb	DT-3221AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	$1,000	$1,080
2.1 gb	DT-32550AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,100	$1,180
4.3 gb	DT-3243AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	$1,395	$1475
4.3 gb	DT-15150AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	$1,550	$1,630
9.0 gb	DT-1991AV	Micropolis	5.25"	12 ms	5400	5 yrs	$2,499	$2,599
9.0 gb	DT-410800AV	Seagate Elite 9	5.25"	11 ms	5400	5 yrs	$3,150	$3,250

SyQuest

Includes Anubus Formatting Software and One cartridge

Capacity	Model No.	Internal	PHASER-I
88 mb	SQ5110C	$305	$365
200 mb	SQ5200	$420	$480
270 mb	SQ3270	$420	$470

Tape

Includes A FREE Copy of Retrospect and One Cartridge

Capacity	Model No.	Format	PHASER-I
2 gb	HP-35470	4mm	$995
4-8 gb	Sony-5000	DDS-2	$1,165
4-8 gb	HP-1533A	DDS-2	$1,360
5-10 gb	Exabyte-8505	8mm	$2,275
10-20 gb	DLT-2000	DLT	$3,599

Optical

Capacity	Model No.	Seek	PHASER-I
230 mb	Fujitsu	30 ms	$675
1.3 gb	HP-C1716	23 ms	$2,099
1.3 gb	Maxoptix T-III	18 ms	$2,199

CD ROM

JVC Personal Archiver (2X)	$1,699
Call about 4X drives.	
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SPECIAL!!!

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The Micropolis 4.0gb spins at 7200 rpm and has an 8.5ms seek rate. With a five year warranty, you can't beat this drive.

$1,395.00

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(Internal Configuration)

Disk Arrays

Capacity	Model No.	Raid Level	External
2.0 gb	DT-31200-2AR	0, 1	$ Call
4.0 gb	DT-32550-2AR	0, 1	$ Call
8.0 gb	DT-15150-2AR	0, 1	$ Call

These drives are perfect for Videovision.

Media

Type	Price	Type	Price
Syquest 44	$42	Optical 128mb	$30
Syquest 88	$48	Optical 1 gb	$100
Syquest 105	$54	Optical 1.3 gb	$95
Syquest 200	$76		
Syquest 270	$60		

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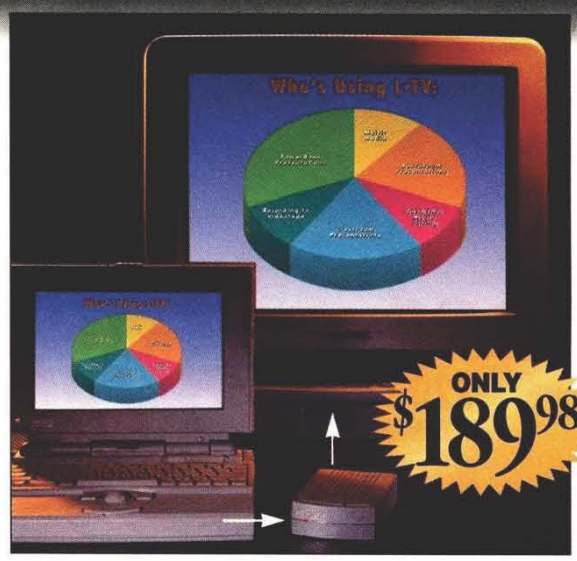

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If you use your computer for making presentations, teaching large groups, or creating multimedia applications for recording to videotape, you need the L/TV Portable. It allows you to connect your Macintosh to any standard television for large screen presentations at any setting. You'll enjoy the highest quality television output from your computer with proprietary flicker reduction. Use L/TV Portable to simultaneously display your presentation on your VGA monitor and TV. The L/TV Portable and L/TV Portable PRO come complete with all cables. FOCUS Enhancements *#97868*

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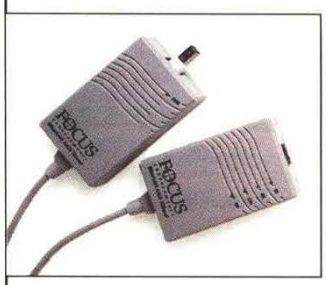

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Mac II (NuBus)	EtherLAN II-T	10Base-T	*#94207*	$79.98
Mac II (NuBus)	EtherLAN A1-II	ThickThin/10Base-T	*#94208*	$104.98
Mac IIsi & SE30	EtherLAN A1-IIsi & SE30	Thick/Thin/10T	*#94209*	$169.98
Mac SE	EtherLAN A1-SE	Thick/Thin/10T	*#94210*	$164.98
Mac LC	EtherLAN LC	Thin	*#94211*	$79.98
Mac LC	EtherLAN LC-T	10Base-T	*#94212*	$74.98
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All Macs w/SCSI	EtherLAN SC	Thin	*#90828*	$199.98
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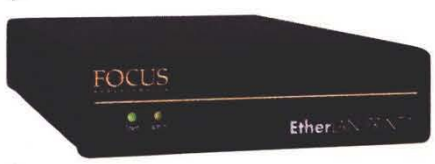
All Macs w/SCSI	EtherLAN Mini-SC	Thin/10Base-T	*#90830*	$219.98



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If you need an easy bridge between your LocalTalk laser printers and an Ethernet network, EtherLAN Print is the fast, plug-and-play solution. It works with any brand of LocalTalk compatible network printer and with other LocalTalk devices such as Macintosh computers. With a BNC connector for thinnet and an RJ-45 connector for 10Base-T, you'll have the ultimate in flexibility. It supports Phase 1 & 2 AppleTalk devices from any zone, and includes management software. Supports two printers. FOCUS Enhancements *#94204*

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EtherLAN Hub9

The EtherLAN Hub9 is a stand-alone 9-port repeater hub with one thinnet connector and eight 10Base-T ports. Easy plug-and-play with no software needed. FOCUS Enhancements *#18293*

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#90811 **TurboStar Controller** $469.98

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- ✓ 350MB formatted capacity
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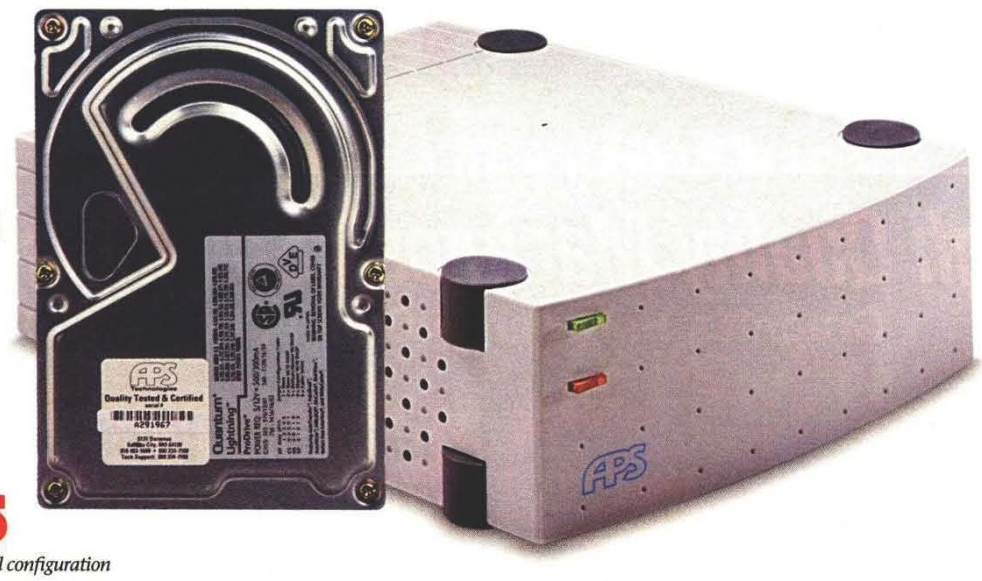

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- ✓ Fastest 2GB available!
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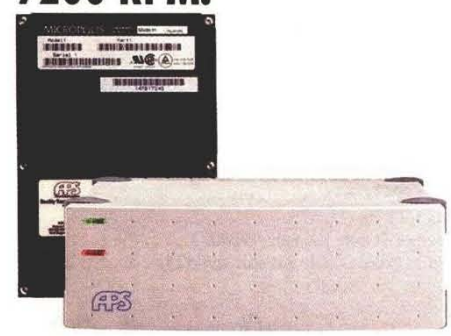
7200 RPM!



APS SCSI HARD DRIVES

349-2047MB

Model	Capacity	Internal	SR2000
APS Q 365[2] Quantum 365 Lightning mechanism	349MB	$159.95	$259.95
New Lower Pricing! APS Q 730[2] Quantum 730 Lightning mechanism	699MB	249.95	349.95
MacUser ZD LABS 4½ APS ST 1.0[5] Seagate ST 31230N Hawk mechanism	1010MB	549.95	649.95
APS Q 1.0[5] Quantum Atlas XP31070 mechanism	1025MB	699.95	799.95
APS Q 2.0[5] Quantum Atlas XP32150 mechanism	2050MB	999.95	1099.95
MacUser ZD LABS 4½ APS MS 2.0[5] Micropolis 4221 mechanism	1955MB	999.95	1099.95
APS ST 2.0[5] Seagate ST 32550N Barracuda	2047MB	999.95	1099.95
APS MS 2.0AV[5] Micropolis 4221AV mechanism	1955MB	1099.95	1199.95

4064-8669MB

Model	Capacity	Internal	SR2000
APS MS 4.0[5] Micropolis 3243 mechanism	4064MB	$1399.95	$1499.95
APS MS 4.0AV[5] Micropolis 3243AV mechanism	4064MB	1499.95	1599.95
MacUser ZD LABS 4½ APS ST 4.0[5] Seagate ST 15150N mechanism	4094MB	1499.95	1599.95
APS Q 4.0[5] Quantum Atlas XP34300 mechanism	4101MB	1499.95	1599.95
APS MS 9.0[5] Micropolis 1991 mechanism	8669MB	2299.95	*2499.95
APS MS 9.0AV[5] Micropolis 1991AV mechanism	8669MB	2399.95	*2599.95
MacUser ZD LABS 4 APS ST 9.0[5] Seagate ST410800N mechanism	8669MB	2999.95	*3199.95

PORTABLE DRIVES

Model	Capacity	Internal Only
APS Q 341[1]	326MB	$299.95
APS Q 514[1]	491MB	399.95
APS T 504[1]	504MB	399.95
APS T 800[1]	773MB	599.95

APS DISK ARRAYS (Level 0-1)

Model	Capacity	RAID LEVEL	Price
ARRAID S2/5400[5]	2GB	Striped (0)	$1399.95
ARRAID M1/7200[5]	1GB	Mirrored (1)	1599.95
ARRAID S2/7200[5]	2GB	Striped (0)	1599.95
ARRAID M2/7200[5]	2GB	Mirrored (1)	2499.95
ARRAID S4/7200[5]	4GB	Striped (0)	2499.95
ARRAID S8/7200[5]	8GB	Striped (0)	3299.95

DATerm™ patent pending
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Internal drives for Quadra 800 and Centris 610 available
Listed capacities are formatted
Full Height cases include SCSI Sentry FREE!
1-5 Denotes length of manufacturer's warranty in years
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NEW FROM APS **APS T 800 $599.95**

Internal configuration

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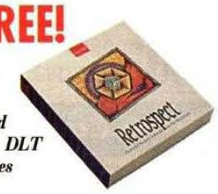
- ✓ Up to 110MB per minute
- ✓ Includes Retrospect v.2.1 software by Dantz **FREE!**



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APS HyperDAT™

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- ✓ Reliable and flexible storage compatible with DDS and DDS-DC DATs

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$499.95 *External without tape!*

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- ✓ Highest capacity, fastest tape drive under $500
- ✓ Up to 4GB of storage
- ✓ Backup rates as high as 30MB per minute
- ✓ Includes Retrospect v2.1 software by Dantz **FREE!**

APS TAPE DRIVES

Model	Capacity*	Internal	External
APS HyperTape[2]	4GB	—	$499.95
APS DAT[2]	4GB	$749.95	799.95
APS HyperDAT[1]	8GB	949.95	999.95
APS DLT20[2]	20GB†	—	3999.95

*Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
† 2:1 Hardware data compression

All APS DAT, DLT & HyperTape drives include Retrospect by Dantz

Tape Media	1-4	5-19	Best Value! 20+
3080XLF (HyperTape)	$34.95	$32.95	$31.95
60-Meter	7.95	6.95	5.95
90-Meter	9.95	8.95	7.95
120-Meter (DDS-2)	19.95	18.95	17.95
DLT Data cartridge	45.95	—	—
DLT 3PK cartridges	129.95	—	—

APS REMOVABLES

Model	Capacity	SR2000
APS SQ 3270[2]	255MB	$479.95
APS SQ 5200[2]	194MB†	499.95

† Does not format 44MB & 88MB cartridges
1-5 Denotes length of manufacturer's warranty in years

All SyQuest drives include 1 FREE cartridge

SyQuest Media	1-4	5-9	Best Value! 10+
SQ-400 (44MB)	$44.95	$43.95	$41.95
SQ-800 (88MB)	54.95	53.95	51.95
SQ-2000 (200MB)	84.95	83.95	81.95
SQ-310 (105MB)	59.95	58.95	56.95
SQ-327 (270MB)	64.95	63.95	61.95

Prices listed are for unformatted media

APS CD-ROM DRIVES

Model	SR2000
APS T 3601[1] QUAD-SPEED	$349.95

APS MO DRIVES

Model		SR2000
APS 230MB MO[2]	New Lower Pricing!	$599.95
APS 1.3GB MO[1]	New 4MB cache	1999.95

1-5 Denotes length of manufacturer's warranty in years

All MO drives include 1 FREE cartridge

MO Media	1-4	5-9	Best Value! 10+
128MB cartridge	$27.95	$26.95	$22.95
230MB cartridge	39.95	38.95	34.95
1.3GB cartridge	89.95	88.95	84.95

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Chinon CDA535 — $275
220ms access time, 300Kb/sec transfer rate,256K,1 Year Warranty

NEC 2VMac — $245
320ms access time, 300Kb/sec transfer rate, 1 Year Warranty

NEC 3Xp — $398
240ms access time, 500Kb/sec transfer rate, 1 Year Warranty

Toshiba QuadSpeed — $380
120ms access time, 600Kb/sec transfer rate, 256K,1 Year Warranty

NEC 4Xe — $485
220ms access time, 600Kb/sec transfer rate,256K,1 Year Warranty

Plextor 4Plex — $425
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- 5 year warranty

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Digital Linear Tape Drives

Quantum DLT

Model	Capacity	Trans.Rate	Media	Ext.
DLT2000	20 GB	2.5MB/sec.	DLT20	$2995
DLT4000	40 GB	3.0MB/sec.	DLT40	$Call!

1 free cartridge with each DLT purchase

These drives are ideal for AV and network backup due to their advanced linear recording technology and a highly accurate tape guide system . DLT allows you to backup 150 to 180 MB per minute. DLT is your high capacity high performance backup solution.

Optical Drives

	Capacity		Access	Warranty	Ext.
Hewlett Packard	1.3 GB	1716T	23.5ms	1 Year	2295
MaxOptics	1.3 GB	Tahitti III	18ms	1Year	2395
Fujitsu	230 MB	M2512	30ms	1Year	575

1 free cartridge with each drive purchase

Hard Drive Cabinets

Zero Footprint 10.75" x 9.75" x 2"..... $75
MicroCab 8.5" x 6.75" x 2"..... $85
Full Height 9.75" x 9.5" x 4.5"..... $135
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Two, four, six, and eight bay cabinets available. All cabinets come with a 25-50 pin Mac system cable and a power cable. 1 year warranty on all cabinets.

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	Vista S6	$760
	Powerlook	$3250

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Quantum Quantum Quantum

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
LPS Series	170 MB	14 ms	3600	128K	2 Year	$135	$195
Maverick	540 MB	14 ms	3600	128K	2 Year	225	285
LPS Series	340 MB	11 ms	4500	128K	2 Year	185	245
DSP3053	535 MB	9 ms	5400	512K	2 Year	225	285
Lightning	540 MB	11 ms	4500	128K	2 Year	239	299
Lightning	730 MB	11 ms	4500	128K	2 Year	259	319
Empire	2100 MB	9.5 ms	5400	512K	5 Year	945	1005
Grand Prix	4200 MB	8.6 ms	7200	512K	5 Year	1155	1215
Atlas Series	1.0 GB	9ms	7200	1024K	5 Year	Call	Call
Atlas Series	2.0 GB	9ms	7200	1024K	5 Year	890	950
Atlas Series	4.0 GB	9ms	7200	2048K	5 Year	1495	1555

	Capacity	Size	Seek	Cache	Warranty	Int.	Ext.
Daytona	256 MB	Powerbook 2..5"	17 ms	128K	1 Year	225	295
Daytona	341 MB	Powerbook 2..5"	17 ms	128K	1 Year	315	395
Daytona	514 MB	Powerbook 2..5"	17 ms	128K	1 Year	385	465

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	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
M4221	2.1 GB	8.5 ms	7200	512K	5 Year	980	1040
M4221Wide	2.1 GB	8.5 ms	7200	512K	5 Year	1080	1140
M1936	3.6 GB	11 ms	5400	512K	5 Year	1195	1295
M3243	4.3 GB	8.5 ms	7200	512K	5 Year	1395	1455
M3243Wide	4.3 GB	8.5 ms	7200	512K	5 Year	1475	1535
M1991	9.0 GB	12 ms	5400	512K	5 Year	2195	2295
M1991Wide	9.0 GB	12 ms	5400	512K	5 Year	2295	2395

Direct to Disk Recording AV Drives- BEST for Music and Video Storage

M4221AV	2.1 GB	8.5 ms	7200	512K	5 Year	1035	1095
M1936AV	3.6 GB	11 ms	5400	512K	5 Year	1245	1345
M3243AV	4.3 GB	8.5 ms	7200	512K	5 Year	1495	1455
M1991AV	9.0 GB	12 ms	5400	512K	5 Year	2325	2425
M4221WideAV	2.1 GB	8.5 ms	7200	512K	5 Year	1135	1195
M3243WideAV	4.3 GB	8.5 ms	7200	512K	5 Year	1595	1655
M1991WideAV	9.0 GB	12 ms	5400	512K	5 Year	2495	2595

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M2100	2.1 GB	8.9 ms	7200	512K	5 Year	Call for the most
M4200	4.2 GB	8.9 ms	7200	512K	5 Year	competitive pricing

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OBI728, 4500RPM, 11ms seek, 128K cache, 2 year warranty

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Quantum Grand Prix 2.0GB.....Int. $890 Ext. $950
Q2100, 5400RPM, 9ms seek, 5 year warranty

Seagate Barracuda 4.0GB.....Int. $1495 Ext. $1555
ST15150N, 7200RPM, 8ms seek, 5 year warranty

Seagate Seagate Seagate Seagate

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
Hawk 2LP	1.2 GB ST31230N	9ms	5400	512K	5 Year	535	595
Hawk 4	4.2 GB ST15230N	9ms	5400	512K	5 Year	1335	1495
Barracuda 2LP	2.5 GB ST32550N	8ms	7200	1024K	5 Year	1050	1110
Barracuda 4	4.2 GB ST15150N	8ms	7200	1024K	5 Year	1495	1555
Barracuda 2Wide	2.5 GB ST32550Wide	8ms	7200	1024K	5 Year	1125	1195
Barracuda 4Wide	4.2 GB ST15150Wide	8ms	7200	1024K	5 Year	1590	1650
Elite 9	9.0 GB ST410800N	11ms	5400	512K	5 Year	2795	2895

FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
M2684	530 MB	9ms	4500	256K	5 Year	220	280
M1606SA	1.2 GB	9ms	4500	512K	5 Year	525	585

HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
C3724SE	1.2 GB	9.5 ms	5400	512K	5 Year	$585	$645
C2490SE	2.4 GB	8.5 ms	6300	512K	5 Year	1125	1185

All in Stock! — SyQuest TECHNOLOGY

Capacity		Seek	RPM	Int.	Ext.
88 MB	SQ5110C	20 ms	3200	$305	$365
200 MB	SQ5200	18 ms	3200	420	480
270 MB	SQ3270	13.5 ms	3200	420	480

2 Year Warranty on all SyQuest Drives. SyQuest drives come complete with 1 cartridge(Formatted or Unformatted) and the latest SCSI 4.3 compatible software

SyQuest TECHNOLOGY Media

Capacity	Model	Warranty	Price
44 MB	SQ400	5 year	$41
88 MB	SQ800	5 year	46
105 MB	SQ310	5 year	50
200 MB	SQ2000	5 year	74
270 MB	SQ327	5 year	63

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Atto

Silicon Express Fast SCSI-2 525
SCSI 1 & 2 support,transfer rates up to 10.0 MB/sec,supports multiple block sizes,takes advantage of parallel processing capability by transferring data directly between the Mac RAM and the SCSI bus! Ideal for graphic design,multimedia applications,software design, and more!

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Remus RAID Software Call

Tape Backup Drives

HEWLETT PACKARD

Capacity	Model	Media	Int.	Ext.
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3-5 GB	35480	4mm	1105	1150
4-10 GB	1533A	4mm	1235	1295
20-50 GB	1553A Auto Tape Loader		3495	3595

Exabyte

Capacity	Model	Media	Int.	Ext.
2-5 GB	8205	8mm	$1395	$1485
7-14 GB	8505XL	8mm	2175	2240

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4x8x80 60/70ns	8MB 60/70ns
4x8x80 FX	16MB 70ns
16x8x80 Low Profile	32MB 60ns
16x8x80 FX	VRAM 256K/512K

Powerbook Memory
520,520C,540,540C
4MB,8MB,16MB,32MB
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240MB - 1200MB

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
QUANTUM	514MB	2.5"	14MS		$ 425	
FUJITSU M2684S	530MB	3.5"	13MS	5400	$ 275	$ 339
CONNER CFP1080S LP	1.2GIG	3.5"	9MS	5400	$ 455	$ 515
Hitachi DK326c-10	1.0GIG	3.5"	9MS	6300	$ 585	$ 645
FUJITSU M1606S LP	1.2GIG	3.5"	10MS	5400	$ 555	$ 615
Seagate ST31230N	1.2GIG	3.5"	9MS	5400	$ 585	$ 645

1.7GIG - 9GIG

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
Seagate ST12450W	1.7GIG	3.5"	8MS	7200	$ 1495	$ 1555
Conner CFP2105S	2.1GIG	3.5"	9MS	5400	$ 855	$ 915
Conner CFP2107S	2.1GIG	3.5"	8MS	7200	$ 955	$ 1015
Quantum XP32140S	2.2GIG	3.5"	8.6MS	7200	$ 995	$ 1055
Seagate Barracuda 2LP	2.5GIG	3.5"	8MS	7200	$ 1055	$ 1115
Seagate Barracuda 2W	2.5GIG	3.5"	8MS	7200	$ 1139	$ 1199
Seagate Barracuda 4	4.1GIG	3.5"	8MS	7200	$ 1499	$ 1559
Seagate Barracuda 4W	4.1GIG	3.5"	8MS	7200	$ 1595	$ 1655
Conner CFP4207S	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Conner CFP4207wide	4.2GIG	3.5"	9MS	7200	$ 1399	$ 1499
Quantum XP34280S	4.3GIG	3.5"	8.6MS	7200	$ 1685	$ 1785
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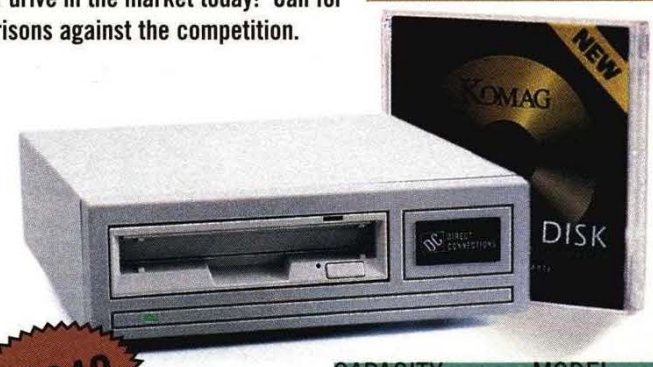

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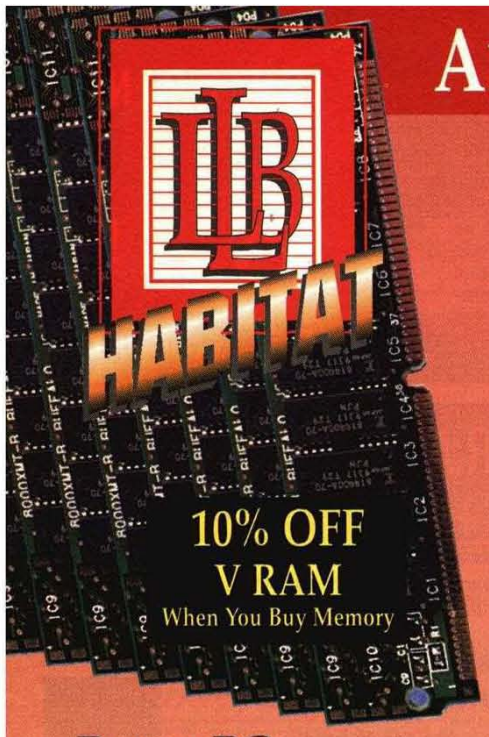

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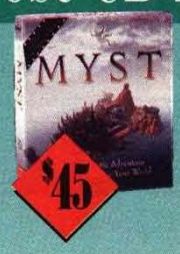

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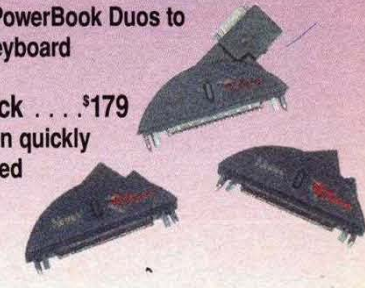

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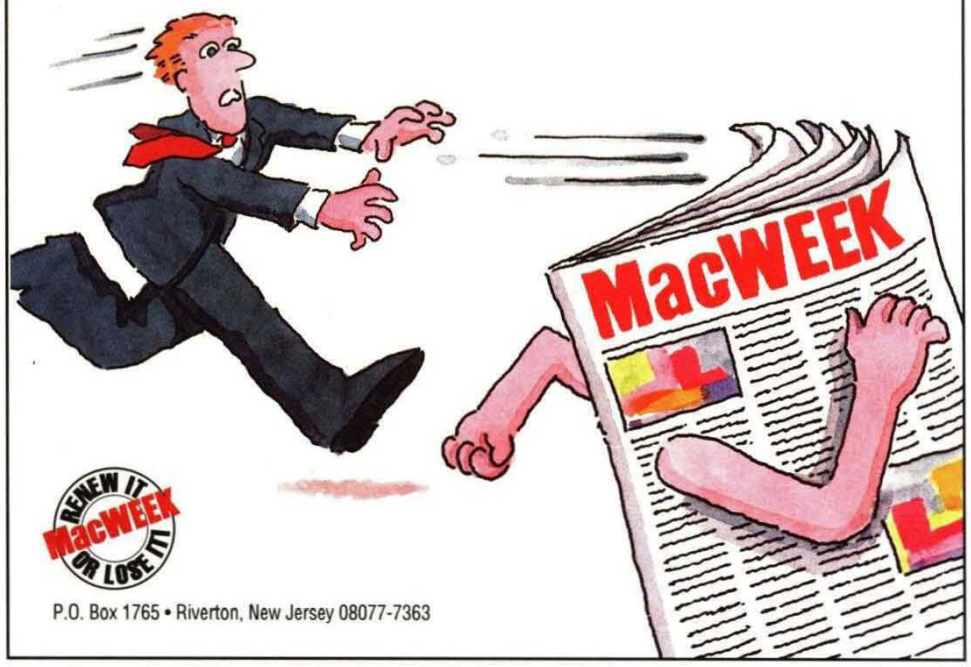

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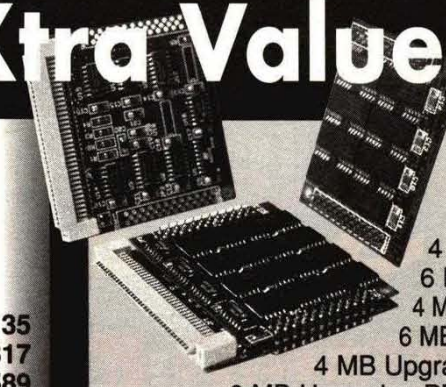

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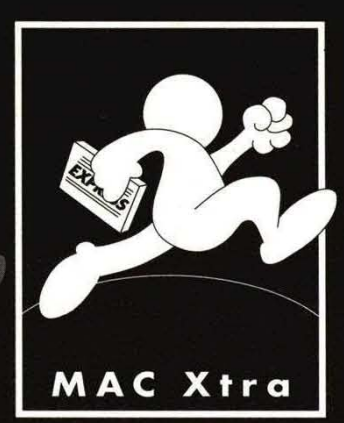

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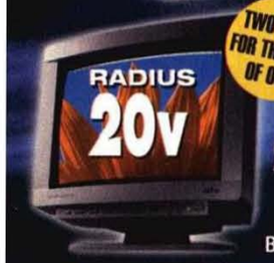

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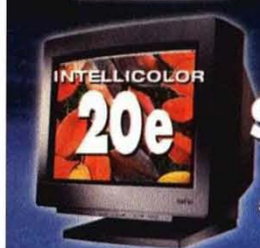

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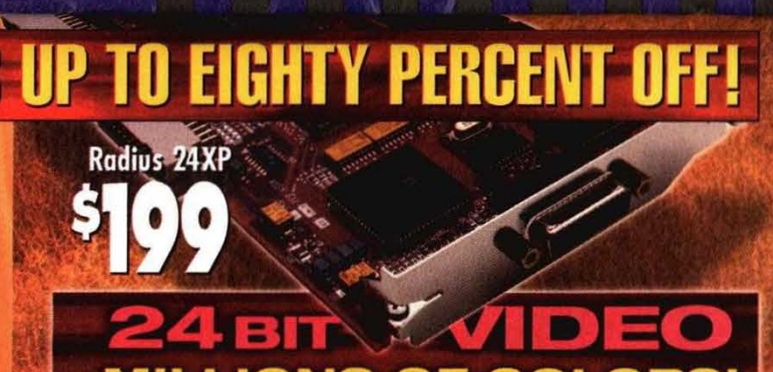

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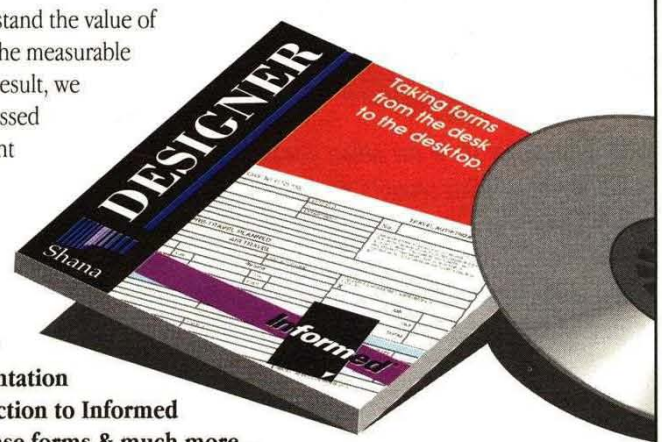

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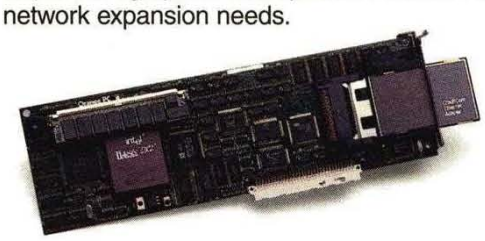

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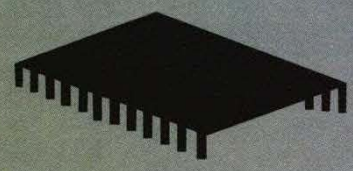

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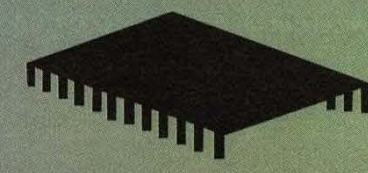

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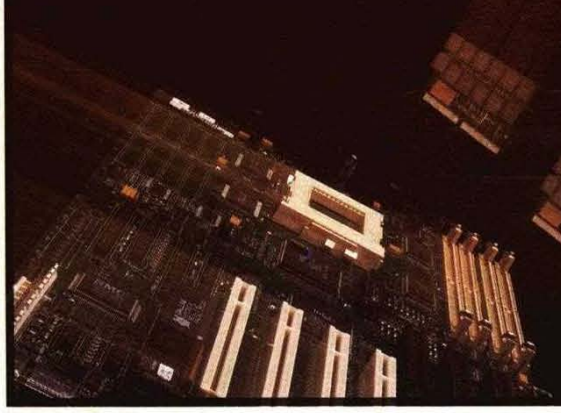

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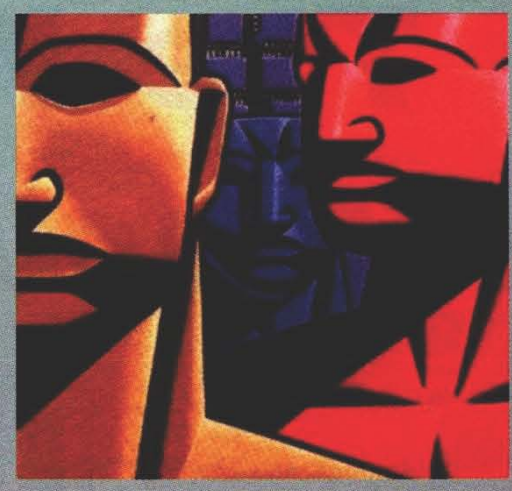

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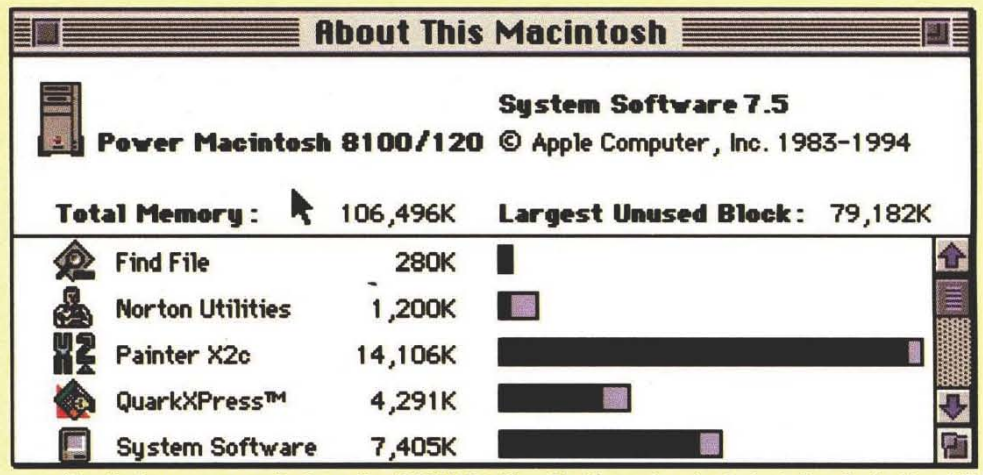

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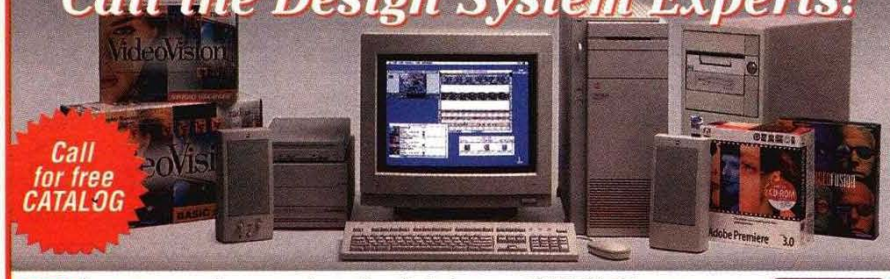

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Seagate	Speed	Internal	External	dsc Turbo
1.0GB	Hawk 1, 9ms	$519	$579	$629
2.4GB	Hawk 2, 9ms	$879	$939	$989
4.3GB	Hawk 4, 9ms	$1329	$1389	$1439
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Tamarack 8000c	800 dpi flatbed w/PS LE	$549
Tamarack 12000C w/trans	**1200 dpi flatbed w/PSLE**	**$949**
Agfa StudioScan II	400 dpi flatbed	$829
Agfa Arcus II w/trans	1200 dpi flatbed	$2709
ScanMaker III	1200 dpi flatbed	$2449
ScanMaker IIHR	**600 dpi flatbed**	**$828**
Umax PowerLook	**1200 dpi flatbed**	**$2449**
Nikon CoolScan	2700 dpi slide	$1449
Polaroid SprintScan	2700 dpi slide	$1859
StudioScan II adapter	transparency upgrade	$379
Microtek adapter	transparency upgrade	$519

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Sony 15SF	15in, .25mm, 1024x768	$439
Sony 17SF	**17in, 25mm, 1024x768**	**$869**
Sony 20SE	20in, .25mm, 1280x1024	$1889
NEC 17XE	17in, 25mm, 1280x1024	$979
Apple 15	**15in, .25mm, 1024x768**	**$419**
Apple 17	17in, 1024x768, .26mm	$799

Video Cards

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Video Cards	Resolution	Price
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Radius Thunder II Series IV GX 1360	1360x1024	$2239
Radius Thunder II Series IV GX 1152	1152x870	$1819
Radius Thunder II Series IV GX 1600	**1600x1200**	**$2769**
Radius Spectrum Power, 1152	1152x870	$1138
Radius Spectrum 24 Series V	1024x768	$589

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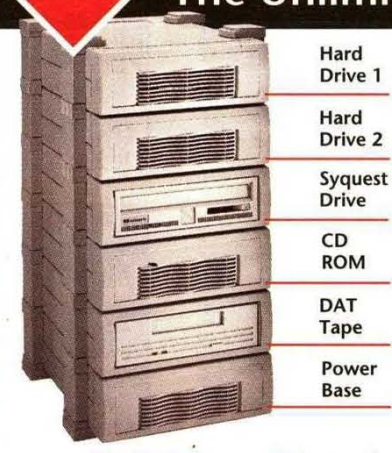

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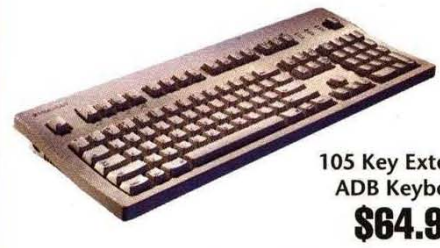

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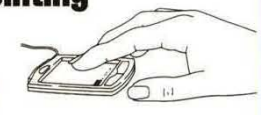

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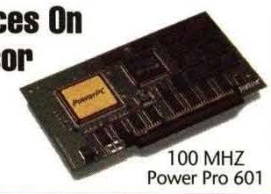

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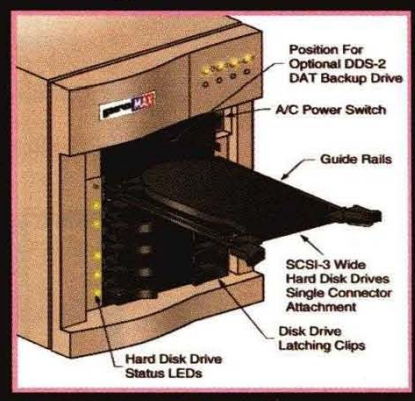
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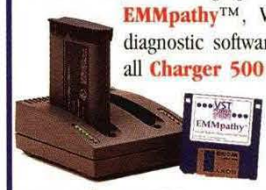

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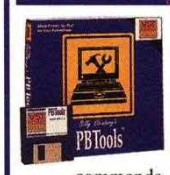

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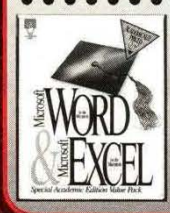

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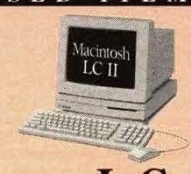

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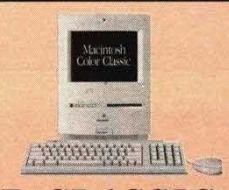

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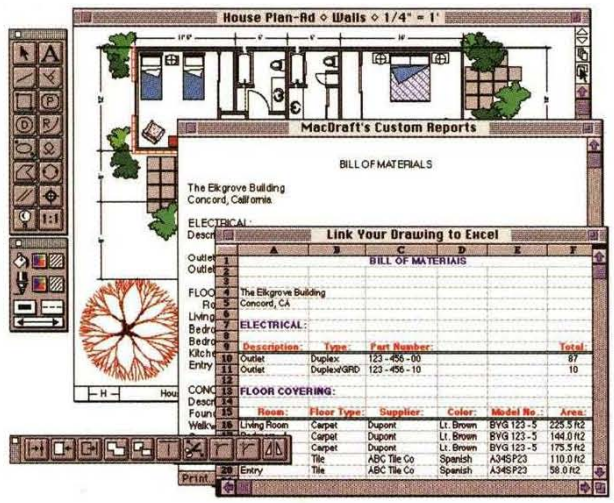
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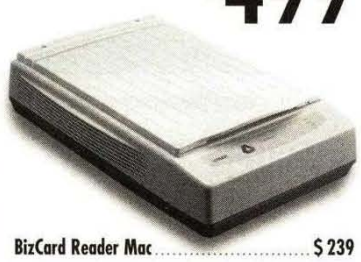

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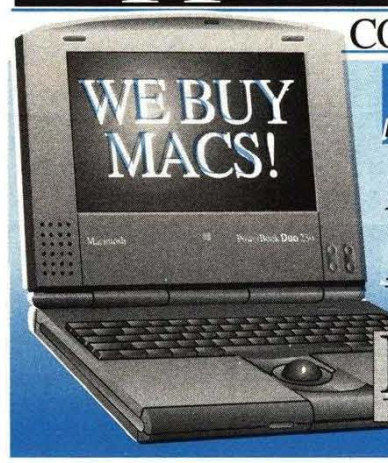

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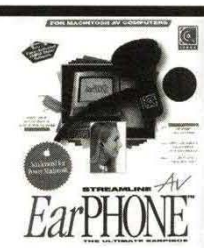

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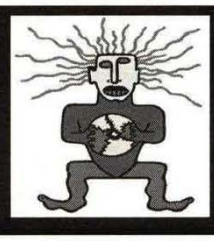

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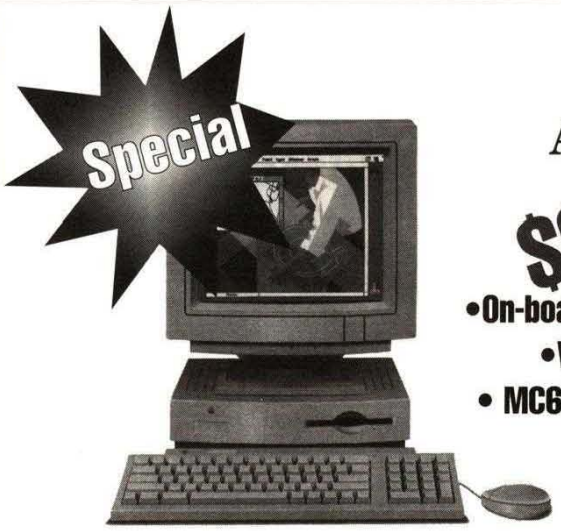

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monitor and keyboard not included

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VIDEO CARDS

RasterOps

The *RasterOps Colorboard 208* is a high-quality color system for the Mac II family of computers. Supports 8-bit color at 640x480.
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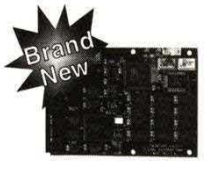

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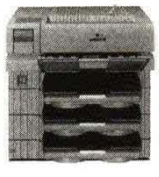

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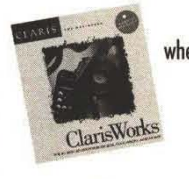

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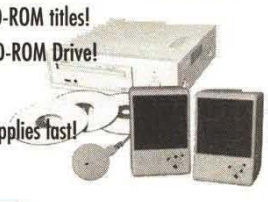

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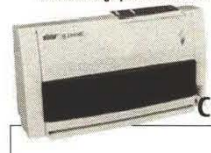

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From Page 1

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Sources said QMS is developing the Imaging Office System client software for 32-bit Windows systems and Macs simultaneously but has no plans to port the server to the Mac.

Based on an open-ended mix of hardware and LAN protocols, the software suite will include Image Arranger; Image Browser; Digital Photo Copier; a Twain scanner interface; and Image On Demand, a printing utility.

Sources said the Digital Photo Copier module will allow users to send jobs to any networked printer. Reportedly, QMS' system can move compressed TIFF images directly to the imaging engines of some printers, greatly speeding up the printing process. The system will also work with PostScript printers and can use Windows NT's built-in print spooler for job queuing and control. In addition, QMS' own printers can be controlled via its proprietary CrownNet management software.

The Image Arranger module, also new, will reportedly be a full-featured image-editing program that includes page-manipulation features; support for multiple file formats, such as TIFF, JPEG and Targa; image filters and painting tools; and 32-bit Twain support. Image Arranger will implement MAPI (Messaging API) as its interface to Microsoft Corp.'s upcoming Exchange server. Sources said this will allow files to be transferred via e-mail and faxed to remote sites.

Image Browser will reportedly allow users to create thumbnail views of files stored anywhere in the system. It will also be the interface to local and server-resident image databases. The browser will reportedly employ Open Database Connectivity middleware to access a variety of SQL database servers.

Sources said the system will accommodate many users and locations over any network protocol, including AppleTalk, TCP/IP, IPX and NetBEUI. It will reportedly support other client platforms, including OS/2 and Unix, later.

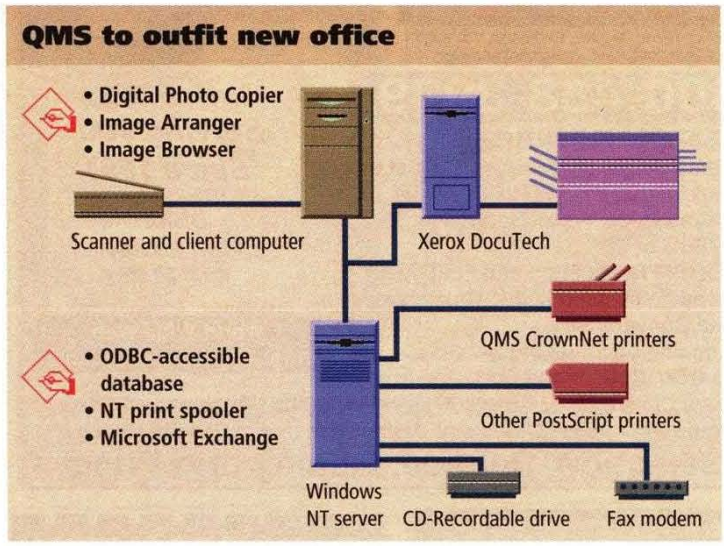
QMS has long been known for its printers, which combine the company's own software with off-the-shelf engines. The Mobile, Ala.-based company now seems to be focusing on document-management software, according to sources.

At least one beta user of the Imaging Office System believes QMS is heading in the right direction. Since November, this imaging company, which moves more than 10 million pages a year, has run the system on four computers connected to 10 scanners.

"QMS came up with a perfect program simply because the applications are designed to make a printer print," the user said.

QMS declined to comment. □

Stephen Howard contributed to this report.



ClarisWorks

From Page 1

into a document from the palette. Five hundred images will reportedly be included with the upgrade.

ClarisWorks 4.0 will build on the Expert Assistant technology introduced in Version 3.0. According to sources, the new version will provide mailing-label and home-finance assistants. The New Document dialog box has also been redesigned to provide a simpler way for users to select assistants or stationery.

Version 4.0 will add many new image-transformation capabilities to its graphics modules, letting users easily flip, rotate, scale and smooth drawing objects, sources said. In addition, the paint module will let users slant, stretch, invert and apply perspective to images.

A new tool bar in the database module will offer quick access to user-defined searches, sorts, layouts and reports. Users will reportedly be able to add radio buttons, pop-up menus and check boxes to database files.

Claris has reportedly added a number of features to the product that are aimed chiefly at the education market. For example, ClarisWorks 4.0 will support third-party equation editors through Apple events; after pasting in an equation, users will be able to double-click it to automatically launch the editor. The word processor module will also include superior, inferior and double-underline font styles, and footnotes can automatically be changed to endnotes.

A Fill Special feature will let spreadsheets automatically calculate date ranges. Spreadsheets will also support cell shading with colors and patterns.

Version 4.0 will add Apple-events scripting, and sources said this support will include some proprietary suites. The package will ship with scripts for batch file translation and printing.

Beta testers and others who had seen the program praised Claris' efforts. The primary complaint was the lack of translators for Microsoft Word 6.0 or Novell Inc.'s WordPerfect 3.1.

The upgrade will also include the HTML (Hypertext Markup Language) export filter recently released by the company (see story, Page 18).

Sources said the product is currently in final beta testing and is slated to be released in July.

Claris declined to comment. □

RAM Doubler quashes bugs

By Robert Hess

Connectix Corp. last week released Version 1.5.2 of its RAM Doubler system extension. The update includes seven bug fixes intended to improve performance and compatibility.

RAM Doubler now works with new Mac models, including those based on the PowerPC 603 processor, such as the new 5200/75 LC model.

Sound files run from a CD-ROM play better with the update installed, and RAM Doubler no longer causes some folders to disappear on some Macintoshes running Apple CD-ROM 5.0 with file sharing.

The company said it has improved compatibility with Apple's Power Mac Debugging Services, making it possible to use the extension with software development environments. Compatibility with DayStar Digital Inc.'s PowerPro accelerator and FWB Inc.'s SCSI JackHammer has been improved as well, Connectix said.

Connectix Corp. of San Mateo, Calif., can be reached at (415) 571-5100 or (800) 950-5880; fax (415) 571-5195; support@connectix.com. □

Analysis

From Page 1

party vendor has announced a GeoPort communications device. Industry observers said GeoPort's prospects have dimmed since March when the Universal Serial Bus, or USB, was announced and endorsed by a group of vendors of Intel-standard PCs.

Robert Mirani, senior telecommunications analyst at The Yankee Group in Boston, said, "Apple still maintains that GeoPort is here and USB won't be for another year, which is true, but GeoPort seems to be losing the battle."

USB backers include Intel Corp., Compaq Computer Corp., Digital Equipment Corp., IBM Corp., Microsoft Corp., NEC Systems Inc. and Northern Telecom Inc. Like GeoPort, USB will offer both isochronous and asynchronous connections, but it will sport a bandwidth of 12 Mbps and allow hot swapping of devices.

"What we are driving is an open industry standard that anyone in the PC industry can adopt," said Jim Pappas, Intel USB program manager. "We don't really care about competing with GeoPort or the ADB; those are Mac technologies. We are developing PC technologies."

Pappas said USB is not designed for video applications, although it will be able to perform video teleconferencing: "USB is focused on telephony and digital audio. On the other hand, GeoPort, with just 2-Mbps bandwidth, is not a video bus either."

According to Kevin Flynn, GeoPort product manager, USB will merely update the outdated PC ports. "On the Windows side, USB fixes a problem Apple solved about 10 years ago via the Apple Desktop Bus," he said.

Flynn said GeoPort's future is bright because of endorsements from several telecommunications giants. Versit, a group consisting of Apple, AT&T Corp., IBM and Siemens Rolm Communications Inc., specified GeoPort last fall as one of its core technologies for interoperability among members' communications products. Other companies that have announced support for GeoPort include Crystal Semiconductor Corp., Motorola Inc., SAT Groupe SAGEM and Zilog Inc.

But the first licensee was Waltham, Mass.-based Aox Inc. Together with Apple, Aox announced in March 1994 that it would sublicense GeoPort to the rest of the PC industry. However, Chris Adams, Aox vice president of marketing and sales, said: "At this point our business partners are looking at USB as opposed to GeoPort. The hope was we would have a [GeoPort] spec and start developing in the May time frame, but it never worked out that way, so we turned our attention to other things."

GeoPort and USB could coexist in one computer, Adams said, but the need to keep costs down will likely preclude vendors from putting both on one machine.

IBM is keeping its fingers in both pies. Big Blue initially endorsed GeoPort and more recently backed USB. "Both are serial-bus technologies, so I guess they compete," said Glenn Rossman, an IBM spokesman. "At the same time, GeoPort is good for networking technologies, whereas USB is more for device support. Our plan is to deliver choice. It need not be an either-or situation."

Intel's influence may eliminate any real choice, however. The company has announced plans to put USB on all its OEM motherboards. San Jose, Calif.-based Dataquest Inc. predicts Intel will ship 20 million logic boards with USB during 1996.

Telephony developer Cypress Research Corp. of Sunnyvale, Calif., said it will wait and see. "GeoPort exists, and we can write to it right now," said Atticus Tysen, vice president of engineering. "USB looks good in theory, but we want to see what happens in real life when it is implemented." □

Columbus was wrong. The world isn't round, it's digital.

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YEAR SIX
Digital World
CONFERENCE & EXPOSITION

Drupa

From Page 1

about 100 countries to tour towering booths, some set up as full-blown printing plants and many sporting restaurants on their second floor. "This is a combination of a World's Fair and the storming of the Bastille," said Frank Romano, a professor of graphic arts at the Rochester (N.Y.) Institute of Technology. Added Romano, "If print is dead, someone ought to tell all these people."

The more than 450,000 Drupa attendees saw a plethora of digital solutions, such as direct-to-plate and direct-to-press, in the 15 exhibit halls.

So long, film

Direct-to-plate, a technology that was barely viable at the last Drupa, has clearly come into its own. More than two dozen systems were on display, at least half of them new. Macs were the standard bearer as the front end to computer-to-plate systems.

Debuting were Linotype-Hell Co.'s Gutenberg, which produces 48 plates an hour at 2,540 dpi; Barco Inc.'s LithoSetter line, including 8- and 16-page machines; Creo Products Inc.'s Thermal Platesetter, which exposes a 32-by-44-inch plate in three minutes at 2,400 dpi; Cortron Corp.'s Page Stripper, which mixes film and digital files on the same plate; and Crosfield Electronics' Celix 8000CTP, which outputs 12 pages an hour.

Also on the scene were Dainippon Screen Manufacturing Co.'s PlateRite PI-R1080, which can produce seven 2,400-dpi plates an hour; Krause PTI Inc.'s LaserStar 140C, which imposes pages after rasterizing; Optronics' Aurora and Eos; Escher-Grad Technologies Inc.'s EG-8000 CTP/M PlateSetter, which produces plates up to 30.5 by 41 inches; and ScanView Inc.'s DotMate 5000CTP, which can image film and paper as well as plates.

The next step in filmless printing, known as direct-to-press, also made a strong showing, particularly in the gargantuan Heidelberg booth, which claimed an entire hall. Crowds jostled to watch demos of the company's QuickMaster D1 46-4, a direct-to-press system featuring a Harlequin PostScript Level 2 RIP and a Windows NT server. The device, which was driven by a Mac at the show, offers 1,270-dpi or 2,540-dpi resolution, can print sizes up to 18.125 by 13.375 inches, and can produce 10,000 pages an hour, the company said.

"QuickMaster could become the imagesetter of printing technology," said Tanagraphics' Beyer. "It takes a PostScript file on one end and prints it on paper 12 minutes later on the other end." Unlike some competitors, the QuickMaster does not support variable data, where customized information is printed on each page.

Scitex Corp. weighed in with a digital press called Spontane, due this year. Able to produce 40 full-color A4 pages a minute, the machine will use Xerox Corp.'s MajestiK imaging engine.

Several companies showed off improvements to existing digital presses. Agfa's Chromapress has a new RIP that uses several PowerPC processors for a fourfold speed increase and new color-conversion features. Xeikon n.v. has added support for variable data, job switching on the fly and electronic collation to its DCP-1. Indigo Ltd. was busy churning out candy wrappers emblazoned with attendees' names from a live database to show off the real-time personalization capabilities of its E-Print 1000.

Eco-friendly printing

For those still using film, the watchword was "dry" as vendors debuted chemical-free imaging materials aimed at replacing the current silver-based film.

Polaroid Corp., entering the digital imaging market, announced a dry film called Dry Tech. Linotype-Hell will manufacture a new imagesetter for the medium by next year. Similarly, Eastman Kodak Co. announced new thermally imaged dry film, which will work in Dainippon Screen's TE-R1070 imagesetter, due this summer.

"The fact that you have to buy a specific new imagesetter to run [the dry film] makes it less valuable than if it ran on any imagesetter," said Chuck Surprise, managing director of the Professional Prepress Alliance in Chula Vista, Calif. "But the quality is excellent; you don't have the halo effect you have with conventionally processed film."

LaserMaster Corp. displayed PressMate, which doubles as a chemical-free imagesetter and thermal color proofer. Combining two hot Drupa trends, Presstek Inc. debuted Pearlsetter, a chemical-free direct-to-plate system.

The proof is in the press

Going direct to press or plate requires top-notch proofing. Polaroid also marked its debut with two new proofers. The DryJet Color Proofing System will use actual printing inks on coated and uncoated paper. Its Direct Digital Color Proofer will provide contract proofs with halftone or frequency-modulated screening.

Kodak introduced the Digital Science color proofer, a high-speed, two-page, dye-transfer device, and showed off the next generation of its Approval digital color-proofing system, which will have a smaller footprint, slightly larger output and drastically lower pricing. DuPont Printing & Publishing showed its new Cromalin 4Cast, an A3 dye-sublimation printer with a PostScript Level 2 RIP, due by fall.

The colors of print

Pantone Inc. showed its HiFi Color scheme, Hexachrome, based on a new proprietary ink set. Pantone said Kodak's Precision Color Management System supports Hexachrome, as will a future version of Agfa's FotoTune CMS, and several desktop publishing and graphics applications.

Harlequin Inc. launched a self-named ColorSync 2.0-compatible color-management system, which it will offer through the OEM channel, while Canon Inc. showed the forthcoming Universal Canon Color Management System, ColorSync 2.0-compatible tools and device profiles, as well as its 3D Color Picker. □

Allegiant runs scripts on Internet

By James Staten

Not satisfied with today's Internet tools? Build new ones. That's the message Allegiant Technologies Inc. is hoping to get across with a scripting language, code-named Black Hole, that allows users to build customized Internet interfaces and automatons.

Using Apple events and AppleScript, the new language will act as an intermediary between any customizable application and the Internet. It will provide client-side e-mail, file transfer, newsgroup, gopher and HTTP (Hypertext Transport Protocol) functionality.

For example, a business could build an Internet mail client into a Claris Corp. FileMaker Pro database to retrieve electronic product orders or an educator could create a custom off-line news reader using Apple's HyperCard, the company said.

Black Hole will come as both a system extension for enhancing Apple events-aware applications or as a external code module for use with the company's SuperCard multimedia authoring tool.

The system will also provide back-end asynchronous CGI (Common Gateway Interface) support for StarNine Technologies Inc.'s WebSTAR World-Wide Web server.

It will support all transport protocols through a plug-in architecture and will provide plug-ins for data-interchange formats, including BinHex, GIF (Graphics Interchange Format) and uuencode.

Black Hole is expected to ship by fall for $249. A fee will be assessed on commercial products developed with the tool.

Allegiant Technologies Inc. of San Diego is at (619) 587-0500 or (800) 255-8258; fax (619) 587-1314; allegiant@aol.com. □

StockWatch

	05.18.95 CLOSE	WEEKLY % CHANGE
Apple	43.38	5.79
MacWEEK Composite*	235.81	-0.17
SOFTWARE DEVELOPERS		
Adobe	54.75	-1.35
Caere	8.25	-5.71
CE Software	2.75	1.15
Diehl Graphsoft	4.50	-7.69
General Magic	11.88	-5.00
Macromedia	37.75	9.82
Microsoft	84.63	3.99
Novell	21.50	4.88
Oracle	33.38	3.89
Saber	6.13	-5.77
Symantec	23.50	6.82
STORAGE		
Conner	12.75	17.24
Iomega	14.13	-5.83
Maxtor	5.00	-1.23
Pinnacle	12.50	0.00
Quantum	21.00	3.07
Seagate	35.00	4.09
SyQuest	11.94	-2.55

	05.18.95 CLOSE	WEEKLY % CHANGE
PERIPHERALS VENDORS		
AmeriQuest	2.75	-4.35
Asanté	3.88	-3.13
Focus	1.75	27.27
Global Village	13.88	0.00
HP	68.50	0.37
QMS	5.63	-2.17
Radius	9.75	-3.70
RasterOps	4.50	3.60
Shiva	40.50	10.20
Tektronix	45.75	-0.81
DISTRIBUTORS		
CompUSA	28.25	10.78
IE	12.00	1.05
Merisel	5.75	0.00
Tech Data	8.88	-1.39
INDUSTRY INDICATORS		
Compaq	40.00	5.26
IBM	93.25	-1.06
Intel	110.75	1.37
Motorola	59.13	0.21
SGI	38.13	4.10
NASDAQ	864.05	1.20

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, General Magic, Global Village, Macromedia, Radius, RasterOps, Shiva and SyQuest. Source: Nordby International Inc.*

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Looking ahead

MAY 29
Flat-file databases are easy to create and use but aren't as flexible as their relational counterparts. This week's Solutions compares the two with a look at **databases.**

JUNE 5
This issue will feature a GA Extra on **multimedia production** and all the hardware needed. In Solutions, we'll cover **enterprise printers** that can provide up to 60 ppm.

REVIEWS IN THE WORKS
- SoftArc's FirstClass 2.6
- HP ScanJet 3c
- Strata MediaPaint
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ZiffNet/Mac This Week

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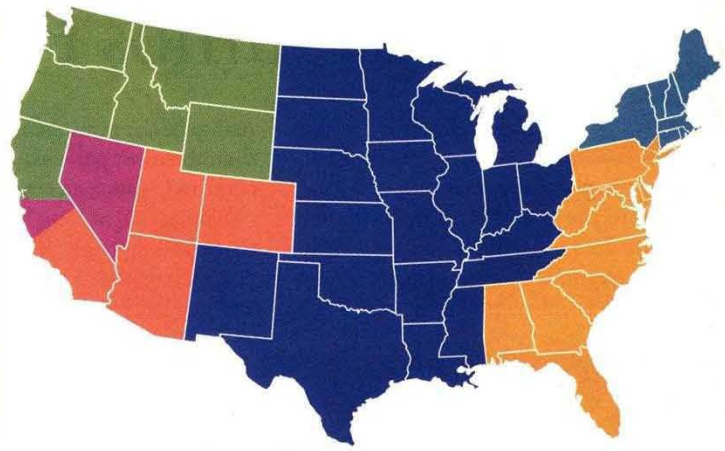

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[4] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo

[5] Includes Southern California south of San Luis Obispo, Arizona, Utah and Colorado

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PPC plumbs Pentium prospects

The belief that a new employer-leased Lexus is the birthright of those who view the universe from the pinnacle of the corporate org chart died a hard death. In executive suites throughout the land, business leaders showed visible signs of distress as the reality of the punitive tax proved stronger than the most persuasive denial one could summon in such an emergency.

Apple, too, at long last abandoned pretense and strongly hinted in public that, yes, there is indeed a PowerPC called 615, and you bet your backup files there will be a 615-based Mac one day "soon." The excitement surrounding this development is due primarily to a 615 feature you won't find in lesser chips. Out of the box, the 615 can run x86 code. Thus, 615-based Mac boxes could proudly proclaim "Ersatz Pentium Inside." Although the mere mention of such in print is probably enough to raise the heart rate of thousands of trademark and patent attorneys nationwide, reliable sources say that prototype Macs based on the PPC 615 specs already exist.

ANATOMY OF A BIONIC MAC™ USER.
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Open with MacWrite

Not all Apple development money is earmarked to showcase the wisdom of weaning a generation from CISC. You might consider that alone an impressive and lofty engineering goal, but a clever and superior chip design does not a market share gain make. There's little point in besting Intel at its game if the software doesn't best Microsoft at its game, too.

One of the big guns in Apple's system software arsenal is OpenDoc. In a struggle such as the one to forestall Microsoft dominance, its every advantage must be utilized. With Claris now sucked back into Apple proper, there's talk around the meeting room of using the MacWrite Pro editing engine as the basis of an OpenDoc text editor and including it free of charge when OpenDoc ships next year. It has even been proposed that the Resolve engine also be reanimated and pressed into duty. While this might not mean the demise of Microsoft's Word and Excel empires, it does help sustain the dream of a world big enough and smart enough to avoid buying into a one-source standard.

Reduced-calorie GX

The enthusiasm with which the market has embarrassed Apple's QuickDraw GX is perhaps matched only by the vigor with which Apple has marketed it. Nonetheless, there are those for whom upgrading to QuickDraw GX has been a less-than-compelling concern. While Apple could take the position that users unwilling to invest thousands of dollars to upgrade entire departments don't deserve to reap the rich harvest of GX benefits, it has not done so.

In fact, the Knife claims that betas of the new LaserWriter 8.3 driver will provide all of the convenience of drag-and-drop desktop printer management without the GX RAM requirement overhead. If the eventual release lives up to the promise, the Chooser can at last be put out to pasture, for some anyway.

Mac hustler

What kind of user pays to view Hustler magazine's Web page? The answer to that question is certainly beyond the scope of this unpretentious column, but paying users there are. Last week Hustler's Silicon Graphics workstation server went down. A mere Mac was pressed into service to maintain this vital resource in the interim.

Service was to remain limited, however. To quote Hustler: "Until [a faulty T1 line] is corrected, we have removed all graphics from the Non-Member area. We have done this to reserve as much bandwidth as possible for our Members." □

If you have enough bandwidth, don't let the lack of a MacWEEK mug spoil your party. Give your insider tip to the Knife at (415) 243-3544, fax (415) 243-3651, Internet (mac_the_knife@macweek.ziff.com), AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.

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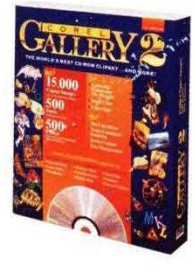

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